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IN THE

Supreme Court of the United States

OCTOBER TERM, 1986

DENNISON MANUFACTURING COMPANY,

Petitioner,

v.

PANDUIT CORP.,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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QUESTIONS PRESENTED

This Court previously granted a writ of certiorari, vacated the judgment of the Federal Circuit, and remanded this case to the Federal Circuit in a *per curiam* opinion:

> The Federal Circuit . . . did not mention Rule 52(a), did not explicitly apply the clearly-erroneous standard to any of the District Court's findings on obviousness and did not explain why, if it was of that view, Rule 52(a) had no applicability to this issue. We therefore lack an adequate explanation of the basis for the Court of Appeals' judgment: most importantly, we lack the benefit of the Federal Circuit's informed opinion on the complex issue of the degree to which the obviousness determination is one of fact. . . . [We] remand the case to the Court of Appeals for further consideration in light of Rule 52(a).

This petition presents the following questions arising from the decision of the Federal Circuit on remand:

1. Should there be a judicially created exception to the "clearly erroneous" standard of Rule 52(a) for patent cases?

2. Whether the "complex issue of the degree to which the obviousness determination is one of fact" should remain unresolved and unsettled?

RULE 28.1 STATEMENT

Petitioner Dennison Manufacturing Company has no parent companies, subsidiaries, or affiliates, other than wholly-owned subsidiaries or affiliates.

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IN THE

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v.

PANDUIT CORP.,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Petitioner respectfully prays that a writ of certiorari issue to review the judgment and opinion of the United States Court of Appeals for the Federal Circuit, entered in its cause No. 85-1144 on January 23, 1987.

OPINIONS BELOW

The opinion of the Federal Circuit on remand from this Court is reported at 810 F.2d 1561, and is reprinted in the Appendix at A 1.

The opinion of this Court remanding this case to the Federal Circuit is reported at 106 S. Ct. 1578, and is reprinted in the Appendix at A 44.

The earlier opinion of the Federal Circuit, which was vacated by this Court, is reported at 774 F.2d 1082, and is reprinted in the Appendix at A 47.

The opinion of the United States District Court for the Northern District of Illinois (Grady, J.) is unreported. The district court's opinion, findings of fact, conclusions of law, and judgment order are reprinted in the Appendix at A 87.

JURISDICTION

The judgment of the Federal Circuit, on remand from this Court, was entered on January 23, 1987. This Court has jurisdiction under 28 U.S.C. § 1254(1).

CONSTITUTIONAL PROVISION, STATUTE, AND RULE INVOLVED

U.S. Const. art. I, § 8, cl. 8

The Congress shall have Power . . . to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries; . . . .

35 U.S.C. § 103

Conditions for Patentability; Non-obvious Subject Matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made . . . .

Federal Rules of Civil Procedure

Rule 52

(a) *Effect.* In all actions tried upon the facts without a jury or with an advisory jury, the court shall find the facts specially and state separately its conclusions of law thereon, and judgment shall be entered pursuant to Rule 58; . . . Findings of fact, whether based on oral or documentary evidence, shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses. . . .

STATEMENT OF THE CASE

Introduction

Respondent Panduit Corp. ("Panduit") filed this patent infringement action against Petitioner Dennison Manufacturing Company ("Dennison") in the United States District Court for the Northern District of Illinois. Federal jurisdiction was based on 28 U.S.C. § 1338(a). Panduit charged Dennison with infringement of three of its patents: U.S. Patent No. 3,537,146 ("the '146 patent"), U.S. Patent No. 3,660,869 ("the '869 patent"), and U.S. Patent No. 3,965,538 ("the '538 patent"). Dennison's primary defense was that the patents were invalid for obviousness as defined by 35 U.S.C. § 103.

The general subject matter of all three patents is plastic cable ties. These cable ties are analogous to common trouser belts in that they include a strap portion which is inserted into an attached head portion.[1] In use the ties are wrapped around a bunch of loose wire cables to hold them together. For example, the cable ties may be used to keep various wires located under the hood of a car in neat bundles that will not interfere with parts of the engine.

The district court held that the claimed inventions of Panduit's patents were invalid for obviousness. The Federal Circuit reversed. This Court granted Dennison's earlier petition for a writ of certiorari, vacated the Federal Circuit's judgment, and remanded the case to the Federal Circuit. On remand, the Federal Circuit again reversed the district court's holding of obviousness.

The District Court's Decision

The district court judge rendered his findings of fact and conclusions of law following a bench trial. Pursuant to 35 U.S.C. § 103 and *Graham v. John Deere Co.*, 383 U.S. 1 (1966), the district court judge made findings of fact on the scope and content of the prior art, the differences between the prior art and the patent claims at issue, the level of ordinary skill in the art, and the secondary considerations of nonobviousness. Then, in light of all the evidence, the district court held that the inventions claimed in all three patents would have been obvious to one of ordinary skill in the pertinent art.

In making the so-called *Graham* findings, the district court followed the Federal Circuit's established approach

[1] Drawings of the plastic cable ties of the Panduit patents are included in the Federal Circuit's first opinion at A 50-51.

of interpreting the claims of each patent to determine the meaning intended by the words in those claims.[2] Next, the court compared the interpreted claims with the relevant prior art to determine their differences.[3] The district court's interpretation of the claims was thus a fundamental element of its *Graham* fact findings and obviousness holding. (*See, e.g.*, A 93)

Further, in making its findings and conclusions on the obviousness issue, the district court carefully followed the Federal Circuit's established legal standards for determining obviousness.[4] The district court judge expressly noted that he should neither engage in hindsight, nor select isolated elements from the prior art and combine them in a manner that would not have been obvious at the time of the invention. (A 89) The district court judge also recognized that he must evaluate the obviousness of the whole invention, as opposed to isolated elements of the claims. (A 93) The judge gave special emphasis to the patents' commercial success, the failures by others to develop equally successful inventions, and other factors that "argue strongly in favor of nonobviousness." (A 89-90) Finally, the district court judge recognized that the presumption of patent validity must be overcome by clear and convincing evidence, and he ultimately held that Dennison met that standard of proof. (A 90, 92-93)

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[2] *See, e.g., Structural Rubber Products Co. v. Park Rubber*, 749 F.2d 707, 721 (Fed. Cir. 1984).

[3] This approach is best demonstrated by the district court's analysis of the '146 patent. (A 90-93)

[4] *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

The Federal Circuit's Earlier Decision

The Federal Circuit reversed the district court's holding of obviousness with respect to all three patents. While the Federal Circuit set aside many of the district court's findings, it did not once mention how Rule 52(a) weighed in its decision.

Dennison filed a petition for a writ of certiorari to review this decision of the Federal Circuit. The petition was broadly based on the assertion that the Federal Circuit had ignored Rule 52(a) in substituting its view of factual issues for that of the district court. The specific focus of the petition was the Federal Circuit's disregard of factual findings that were critical to the district court's conclusion of obviousness.

This Court's Grant of Certiorari

This Court found that "[p]etitioner's claims are not insubstantial," and granted the petition. In pertinent part, the Court stated:

> The Federal Circuit . . . did not mention Rule 52(a), did not explicitly apply the clearly-erroneous standard to any of the District Court's findings on obviousness and did not explain why, if it was of that view, Rule 52(a) had no applicability to this issue. We therefore lack an adequate explanation of the basis for the Court of Appeals' judgment: most importantly, we lack the benefit of the Federal Circuit's informed opinion on the complex issue of the degree to which the obviousness determination is one of fact. (A 46)

The Court vacated the Federal Circuit's judgment and remanded the case to the Federal Circuit "for further consideration in light of Rule 52(a)."

The Federal Circuit's Decision on Remand

After inviting and receiving additional briefs from the parties following remand, the Federal Circuit concluded that the ultimate conclusion of obviousness is a legal one based on certain findings of fact.

Those facts, which are to be found by the district court, are the three primary *Graham* factors (the scope and content of the prior art, the differences between the prior art and the claimed invention, and the level of ordinary skill in the pertinent art) together with the secondary considerations, such as commercial success. According to the Federal Circuit, the ultimate question of obviousness is whether, in light of the facts found, the claimed invention as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the pertinent art. (A 6)

The Federal Circuit also stated that Rule 52(a) is "fully applicable to all [factual] findings on which the § 103 [obviousness] issue is decided . . . ." (A 12) That pronouncement, however, was preceded by the caveat that Section 103 fact finding involves ~~legal~~ determinations. (A 9-10) For example, the Federal Circuit stated that the obviousness analysis begins with claim interpretation, a legal question that "will normally control the remainder of the decisional process." (A 9)

The Federal Circuit again reversed the district court's conclusion of obviousness on the ground of legal error. One controlling "legal error", according to the court, was the district court's interpretation of the patent claims. The appellate court concluded that the district court's findings based thereon were "necessarily" clearly erroneous, and they were set aside without regard to Rule 52(a). (A 9, 25-26) The Federal Circuit then made *de novo* findings based on its own claim interpretation.

A second controlling "legal error" involved the Federal Circuit's disagreement with the district court's conclusion on obviousness. The court concluded that the district court's findings on the secondary considerations alone established nonobviousness as a matter of law. (A 28, 31 n.41) The court reached this "legal" conclusion independently of Rule 52(a), even though that conclusion was essentially based on its disagreement with the district court on the weight to be given to the evidence in this case. (*See* A 31 n.41)

The Federal Circuit held that there was no basis for a remand. Specifically, the court found that a remand for additional fact finding based on properly interpreted claims was unnecessary in light of its legal conclusion that the secondary considerations established nonobviousness and its *de novo* finding that the prior art was "remote from the properly interpreted claims at issue". (A 25-26; *see also* A 4-5, 31 n.41)

REASONS FOR GRANTING THE WRIT

The Federal Circuit has exclusive appellate jurisdiction in patent cases.[5] Thus, but for this Court, the Federal Circuit is the final authority on substantive issues of patent law and related procedural issues. Further, the Federal Circuit is resolving these issues without the views of other federal appellate courts. This form of exclusive appellate jurisdiction underscores the need for this Court to review the important questions presented here.

[5] 28 U.S.C. § 1295(a)(1).

I.

THE FEDERAL CIRCUIT'S TREATMENT OF CLAIM INTERPRETATION AS A LEGAL QUESTION CREATES A BROAD EXCEPTION TO RULE 52(a) IN PATENT CASES.

The Federal Circuit has stated that claim interpretation is a legal question that "will normally control the remainder of the decisional process." (A 9) By placing this pivotal question beyond the bounds of Rule 52(a), the Federal Circuit has "so far departed from the accepted and usual course of judicial proceedings . . . as to call for an exercise of this Court's power of supervision." Sup. Ct. R. 17.1(a); *see, e.g., New York Transit Authority v. Beazer*, 440 U.S. 568, 570-71 (1979).

The Federal Circuit's treatment of claim interpretation as a question of law creates a broad exception to the "clearly erroneous" standard of Rule 52(a). The most common patent issues, obviousness and infringement, depend directly upon the threshold determination of the scope of the claims of the patent.

With respect to obviousness, the scope of the patent claims controls the determination of the differences between the invention as claimed and the prior art. Also, the scope of the claims directly bears on the weight accorded to the secondary considerations, such as commercial success. Further, resolution of the infringement issue is directly controlled by the scope of the claims.

This case presents the Court with a classic demonstration of the consequences that flow from appellate review of claim interpretation independent of Rule 52(a). The Federal Circuit treated claim interpretation as a question of law here, and, in one broad stroke, overturned all of the district court's findings as to the differences between

the prior art and the claimed devices. The court then made *de novo* findings based on its own claim interpretation, and reversed the district court.[6] Appellate fact finding as practiced by the Federal Circuit is clearly contrary to Rule 52(a) and to the broader policies of this Court and Congress, insofar as they concern the separate roles of the district and appellate courts in the realm of fact finding.[7]

Upon analysis, it is evident that claim interpretation is not a pure, simple legal question where, as here, the district court's alleged error turns on the meaning it ascribed to the claims in dispute.[8] Indeed, claim interpretation is

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[6] The Federal Circuit's *de novo* findings included its finding that "crucial structural elements of the invention . . . clearly distinguish . . . the whole claimed device from those in prior patents" (A 26), and that "crucial claimed structural limitations" accounted for the inventions' success. (A 18; *see also* A 28, 33) The Federal Circuit did not identify the "crucial" claim limitations. It just generally referred to the patent claims which were reproduced verbatim in its first opinion. (A 27, 83-86)

[7] The Federal Circuit's conclusion that appellate fact finding was justified here because there can be only one resolution of the non-obviousness issue and because patent claims and prior art patents lend themselves to only one interpretation (A 32 n.42) demonstrates how narrowly that court views Rule 52(a).

Even the Federal Circuit's review of fact findings independent of claim interpretation is contrary to this Court's Rule 52(a) decisions. In *Anderson v. City of Bessemer City*, 470 U.S. 564, 574 (1985), the Court stated that, "[w]here there are two permissible views of the evidence, the fact finder's choice between them cannot be clearly erroneous." During trial, Panduit's counsel admitted that there were two permissible views on the teaching of a significant prior art patent. Nonetheless, the Federal Circuit found that it was not bound by the district court's view of this prior art patent because the admission of Panduit's counsel was "not evidence". (A 35-36, n.46)

[8] A fair reading of the district court's opinion shows that it did not ignore claim limitations, as alleged by the Federal Circuit. (A

(Footnote continued on following page)

ordinarily a fact-intensive exercise that requires analysis of the claim language and extrinsic evidence consisting of the patent specification, other claims, and the prosecution history. (A 9) Likewise, expert testimony may be considered when interpreting a claim. Close scrutiny may suggest that claim interpretation is actually most akin to a fact question or, at least, to a mixed question of fact and law.

As it stands now, the Federal Circuit has provided the district courts with conflicting signals on the extent to which claim interpretation is a fact question and subject to Rule 52(a). Typically, the Federal Circuit states, without explanation or qualification, that claim interpretation is a legal question. On occasion, it refers to early Supreme Court cases which state that claim construction is a legal question. *See, e.g., Structural Rubber Products Co. v. Park Rubber,* 749 F.2d 707, 721 n.14 (Fed. Cir. 1984) (citing, *e.g., Winans v. Denmead,* 56 U.S. 329, 337, 15 How. 349, 358 (1853); *Bates v. Coe,* 98 U.S. 31, 38-39 (1878)). But, in some cases the Federal Circuit treats disputes over claim language as fact issues. *See, e.g., Moeller v. Ionetics, Inc.,* 794 F.2d 653, 656-57 (Fed. Cir. 1986); *McGill Inc. v. John Zink Co.,* 736 F.2d 666, 671-72 (Fed. Cir.), *cert. denied,* 469 U.S. 1037 (1984). Further, the extent to which the Federal Circuit treats claim interpretation as a ques-

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[8] *continued*
25-27) Rather, the district court merely found that certain claim limitations were necessary features of other claim elements. (*See, e.g.,* A 90-91) The district court used the one element that necessarily included other limitations as part of its obviousness analysis. (*See, e.g.,* A 92-93) The district court's use of a shorthand term for groups of related claim elements is supported by the record. Indeed, during trial, Panduit itself used similar shorthand terms to refer to related claim elements. (*See, e.g.,* PX 51A; Trial Tr. pp. 25-26, 259-260, 467-469, 1367, 1379)

tion of fact may vary with the nature of the proceeding (e.g., bench trials, jury trials, and summary judgments). *See id.*

It is manifest that this Court's intervention is needed to provide the district courts with workable guidelines on claim interpretation and to discourage litigants from trying their cases *de novo* in the Federal Circuit on the basis of an "erroneous" claim interpretation. Most important, because claim interpretation is a threshold determination that controls the resolution of most issues in patent cases, this Court's intervention is needed to determine whether the Federal Circuit's review of factual findings dependent upon claim interpretation is in accord with the mandate of Rule 52(a).[9]

II.

THE EXTENT TO WHICH OBVIOUSNESS IS A QUESTION OF FACT SUBJECT TO RULE 52(a) IS AN IMPORTANT AND COMPLEX QUESTION THAT IS UNRESOLVED.

This Court specifically requested "the Federal Circuit's informed opinion on the complex issue of the degree to which the obviousness determination is one of fact." (A 46) The Federal Circuit responded with a simplistic answer to this complex issue. As a result, the district courts

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[9] Congress has evinced its intent that Rule 52(a) should be applied by the Federal Circuit in its resolution of patent disputes. As noted in the House Report on the creation of the Federal Circuit:

> It is well established that factual issues in a patent case must be tried and decided by the trial judge or a jury in precisely the same manner as such issues are tried in any other kind of lawsuit. The technical aspects of a patent case are factual issues, and patent cases are reviewed in the circuit courts of appeals in the same manner as with other appeals.

H.R. Rep. No. 312, 97th Cong., 1st Sess. 37 (1981).

have no meaningful guidelines for resolving this difficult issue that lies at the heart of patent jurisprudence.

The effect of inadequate guidelines is made clear by this case. A seasoned district court judge was reversed on the issue of obviousness on three patents, even though, as to each patent, he carefully and thoroughly considered each *Graham* factor. Further, the district court judge specified the correct burden of proof to overcome the presumption of validity and the correct weight to be given to secondary considerations such as commercial success. Notwithstanding, the Federal Circuit reversed the judge's decision on all three patents, each of which relates to trivial differences on a simple device.[10] Results such as this can only cause a district court to wonder how, after it follows all of the Federal Circuit's rules on the obviousness issue, the Federal Circuit can reach an opposite conclusion.

Professor Moore aptly observes that "where 'fact' ends and 'law' takes over is particularly troublesome in patent litigation." 5A J. Moore, *Moore's Federal Practice* ¶ 52.05[2], at 52-122, 52-127 (2d ed. 1986). The Court duly noted this problem when it asked the Federal Circuit for its "informed opinion" on whether the ultimate question of obviousness is one of fact. However, the Federal Circuit declined to so enlighten this Court, the district courts, and the patent bar on this important issue of patent law.

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[10] Essentially, the Federal Circuit substituted its judgment for that of the district court on the weight to be given to the evidence of secondary considerations in this case. To wit, the Federal Circuit held that the secondary considerations established nonobviousness regardless of what the primary *Graham* factors may show. The Federal Circuit's elevation of secondary considerations to *the* controlling factor, however, finds no basis in the patent statute, and is inconsistent with established authority of the Court. In *Graham*, for example, this Court found that secondary considerations were not controlling when the claimed invention was obvious in light of the primary *Graham* inquiries. 383 U.S. at 36.

In essence, the Federal Circuit avoided detailed consideration of the complex question by using circular reasoning. In pertinent part, the Federal Circuit stated:

> The answer to that question [of obviousness] partakes more of the nature of law than of fact, for it is an ultimate conclusion based on a foundation formed of all the probative facts. If a fact itself, it would be part of its own foundation. (A 6)

In other words, according to the Federal Circuit, obviousness is a legal question because it is "more of the nature of law." This begs the question.[11]

The Federal Circuit also noted that several regional courts of appeals and commentators have interpreted *Graham* to hold that obviousness is a question of law. (A 7-8) However, the Federal Circuit's cursory analysis ignores clear suggestions to the contrary. The most pertinent passage in *Graham* on this subject is:

> While the ultimate question of patent *validity* is one of law, . . . the § 103 condition [that is, nonobviousness], . . . lends itself to several basic factual inquiries.

383 U.S. at 17 (emphasis added).

This statement in *Graham* is derived from Justice Douglas's concurring opinion in *A. & P. Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 155 (1950), where he stated that, "The standard of patentability is a constitutional standard; and the question of validity of a patent is a question of law."

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[11] The Federal Circuit's statement that the ultimate question of obviousness is one of law based on the findings relating to the *Graham* factors offers no further insight since this Court had already reaffirmed that the *Graham* factors are factual inquiries. (A 45-46)

Graham and *A. & P.* do not require that obviousness, as opposed to patent validity, be a question of law. In *Graham*, the Court concluded that Section 103 was a codification of existing law consistent with the "standard of invention" requirement established in *Hotchkiss v. Greenwood*, 52 U.S. 248, 11 How. 261 (1851), and that the statute did not work any substantive change in the requirements of patentability. 383 U.S. at 15-17. Prior to the *A. & P.* decision, this Court treated obviousness as a question of fact.[12] Thus, historically the Court has not always considered the *Hotchkiss* or nonobviousness condition to be one of law.

Further, *Graham* analogized the obviousness inquiry to that made in negligence cases. 383 U.S. at 18. Yet negligence is treated by this Court as a question of fact, *see McAllister v. United States*, 348 U.S. 19 (1954), despite the circumstance that it is necessary to apply an abstract legal standard to a given set of facts.

The Federal Circuit's reason for treating obviousness as a question of law is also inconsistent with its treatment of other conditions of patentability. For example, utility and novelty are basic, statutory conditions of patentability (35 U.S.C. §§ 101, 102), and would appear to be no less subject to the constitutional standard of patentability than obviousness. Utility and novelty, like obviousness, involve no more than determining whether the facts meet the respective standards of patentability set forth in Sections 101-103. Notably, the Federal Circuit has

[12] *See, e.g., United States v. Esnault-Pelterie*, 299 U.S. 201, 204-05 (1936); *Keyes v. Grant*, 118 U.S. 25, 37 (1886).

indicated that it considers utility[13] and novelty[14] to be ultimate questions of fact.

Another reason to doubt the Federal Circuit's peremptory conclusion that obviousness is a legal question is the disparate review accorded by the Federal Circuit to the obviousness issue in nonjury and jury cases. The Federal Circuit has held that it is proper to submit the question of obviousness to a jury if accompanied by appropriate instructions on the law. *See Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1547 (Fed. Cir. 1983). Yet review of the obviousness conclusion in jury cases is quite limited, despite its status as a question of law. *See Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1511 (Fed. Cir.), *cert. denied*, 469 U.S. 871 (1984).

Thus, the Federal Circuit's analysis of the obviousness question does not take into account these compelling reasons why obviousness may not be a question of law. Further, this facile analysis leaves the district courts without guidance on how to arrive at the ultimate question of obviousness once the findings on the primary *Graham* factors and secondary considerations are in place. Specifically, the Federal Circuit has provided no standard akin to a "nexus" or "proximate cause" for linking the factual findings with the conclusion on obviousness. At the appellate level, the Federal Circuit's practice of labeling obviousness as a question of law permits it to review a district

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[13] *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 835 (1984).

[14] *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379 (Fed. Cir. 1986), *cert. denied*, 55 U.S.L.W. 3661 (1987).

court's judgment solely for disagreement on the conclusion of obviousness.[15]

This Court's guidance on this important issue is needed now so that it does not remain unsettled and unresolved.

CONCLUSION

The Federal Circuit's approach to Rule 52(a) and its failure to adequately address the complex question posed by this Court on remand places a cloud of uncertainty over the district courts. This case effectively demonstrates the negative consequences of this uncertainty. These consequences are particularly disturbing in view of the Federal Circuit's exclusive appellate jurisdiction over patent dis-

[15] This disagreement approach has been the stated policy of the Federal Circuit. For example, in *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 1344 (Fed. Cir.) (in banc), *cert. denied*, 469 U.S. 830 (1984), the court characterized its scope of review as follows: "Our task is thus to consider the facts . . . and reach our own conclusion on obviousness."

putes. Accordingly, the Court should exercise its supervisory powers of intervention and grant this petition for certiorari.

Respectfully submitted,

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APPENDIX

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PANDUIT CORPORATION,	)	
	)	
Appellant,	)	
	)	Appeal No. 85-1144
v.	)	
	)	
DENNISON MANUFACTURING CO.,	)	
	)	
Appellee.	)	

DECIDED: JANUARY 23, 1987

Before MARKEY, *Chief Judge,* COWEN, *Senior Circuit Judge,* and NEWMAN, *Circuit Judge.*

On remand from the Supreme Court. Having considered the record, appealed judgment, district court's findings and application of law, arguments in this court and the Supreme Court, and invited briefs of the parties and *amicus* American Intellectual Property Law Association, we respond to the remand and again affirm the judgment on the 35 U.S.C. § 102(g) defense and reverse the judgment on the 35 U.S.C. § 103 defense.

The Remand

In remanding, *Dennison Manufacturing Co. v. Panduit Corp.*, 106 S. Ct. 1578, 229 USPQ 478 (1986), *vacating,* 774 F.2d 1082, 227 USPQ 337 (Fed. Cir. 1985), the Supreme Court said:

> Petitioner contends that the Federal Circuit ignored Federal Rule of Civil Procedure 52(a) in substituting its view of factual issues for that of the District Court. In particular, petitioner complains of the re-

jection of the District Court's determination of what the prior art revealed and its findings that the differences identified between respondent's patents and the prior art were obvious.

Petitioner's claims are not insubstantial. As this Court observed in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966):

> "While the ultimate question of patent validity is one of law, . . . the § 103 condition [that is, nonobviousness] . . . lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unresolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy."

This description of the obviousness inquiry makes it clear that whether or not the ultimate question of obviousness is a question of fact subject to Rule 52(a), the subsidiary determinations of the District Court, at the least, ought to be subject to the Rule.

The Federal Circuit, however, did not mention Rule 52(a), did not explicitly apply the clearly-erroneous standard to any of the District Court's findings on obviousness and did not explain why, if it was of that view, Rule 52(a) had no applicability to this issue. We therefore lack an adequate explanation of the basis for the Court of Appeals' judgment: most importantly, we lack the benefit of the Federal Circuit's informed opinion on the complex issue of the degree to which the obviousness determination is one of fact.

> In the absence of an opinion clearly setting forth the views of the Court of Appeals on these matters, we are not prepared to give plenary consideration to petitioner's claim that the decision below cannot be squared with Rule 52(a). Instead, we grant the petition for certiorari, vacate the judgment and remand the case to the Court of Appeals for further consideration in light of Rule 52(a).

106 S. Ct. at 1579, 229 USPQ at 479.

Opinion on Remand

Reversal of the district court's judgment on the § 103 defense was and is compelled because of legal error, because a first set of clearly correct and unchallenged findings requires that the conclusion of nonobviousness, 35 U.S.C. § 282,[1] must remain untrammeled and because a second set of findings, some nonprobative, some clearly erroneous, is unable to support, intrinsically and in light of the first set, the district court's conclusion of obviousness.

The Background section of our earlier opinion noted error in the second set of findings but did not label it clearly erroneous, Rule 52(a), and did not expressly indicate that the noted error was not the basis for reversal set forth in the Opinion section, thus raising a question respecting the basis for our judgment. That circumstance, regrettable because it has delayed a just end to this litigation, is here rectified.

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[1] 35 U.S.C. § 282 reads in pertinent part:

> *A patent shall be presumed valid.* Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. *The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.* [Emphasis added.]

On review of a judgment based on a conclusion of obviousness under 35 U.S.C. § 103[2], this court must consider not only whether there is legal error, but also whether the underlying findings are either nonprobative, or clearly erroneous, or both. If, unlike the present case, a district court had not made findings necessary to resolution of the § 103 question, and legal error were present, an appellate court would vacate in view of that legal error and remand for the district court to make the missing findings. *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 872-75, 228 USPQ 90, 97-99 (Fed. Cir. 1985). If unassailable findings were made but could not support the appealed judgment under a proper application of law, an appellate court may vacate or reverse but not make its own findings. *Icicle Seafoods, Inc. v. Worthington*, ___ U.S. ___, ___, 106 S. Ct. 1527, 1530 (1986).

If findings necessary to support a legal conclusion are clearly erroneous, the conclusion cannot stand. If those facts were such as to permit only one of two possibilities, or if the burden of proving those necessary facts had been on appellee, reversal would not mean the appellate court found facts in defiance of Rule 52(a).[3] If, unlike the present case, appellee did not bear the burden below, a remand-requiring fact-finding function might remain.

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[2] 35 U.S.C. § 103 reads in pertinent part:

Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

[3] That a question is legal does not, of course, free an appellate court to ignore Rule 52(a), to disregard the clearly erroneous standard, to make its own findings *de novo*, or simply to disagree on whim with the district court's legal conclusion.

To obtain reversal without remand, an appellant-patentee must convince this court that the patent challenger failed at trial to carry its statutory burden, 35 U.S.C. § 282, of proving by clear and convincing evidence sufficient facts to support the obviousness conclusion. One way to do that is to show that a proper application of the law to unassailable findings compels reversal. Another is to show that the findings on which the obviousness conclusion rested are clearly erroneous and that nothing of record warrants a further exercise of the fact-finding function or indicates any possibility that the appealed judgment might be sustained by such exercise. Because the record here establishes that appellant has made both showings, reversal is required and there is no basis for remanding the case for new findings by the district court.

In this opinion:

Part I supplies our opinion on the remand inquiry ("the degree to which the obviousness determination is one of fact").

Part II treats Rule 52(a)'s applicability to § 103.

Part III examines the statutory burden of proof.

Part IV describes inventor Caveney's inventions and the effect of his claims.

Part V discusses our earlier opinion and the district court's approach to resolution of the § 103 issue in this case.

Part VI identifies the patent claims on appeal.

Part VII sets forth the district court's erroneous claim interpretations.

Part VIII discusses the findings in general.

Part IX reviews correct findings that compel a conclusion of nonobviousness.

Part X reviews nonprobative and clearly erroneous findings that underlay the appealed judgment.

The Appendix comments on parts of the Petition for Certiorari and Reply.

Part I

The Obvious-Nonobvious Question is One of Law

(a) Nature

A § 103 determination involves fact and law. There may be these facts: what a prior art patent as a whole discloses; what it in fact disclosed to workers in the art; what differences exist between the entire prior art, or a whole prior art structure, and the whole claimed invention; what the differences enabled the claimed subject matter as a whole to achieve; that others for years sought and failed to arrive at the claimed invention; that one of those others copied it; that the invention met on its merits with outstanding commercial success.

With the involved facts determined, the decisionmaker confronts a ghost, i.e., "a person having ordinary skill in the art," not unlike the "reasonable man" and other ghosts in the law. To reach a proper conclusion under § 103, the decisionmaker must step backward in time and into the shoes worn by that "person" when the invention was unknown and just before it was made. In light of *all* the evidence, the decisionmaker must then determine whether the patent challenger has convincingly established, 35 U.S.C. § 282, that the claimed invention as a whole would have been obvious at *that* time to *that* person. 35 U.S.C. 103.[4] The answer to that question partakes more of the nature of law than of fact, for it is an ultimate conclusion based on a foundation formed of all the probative facts. If itself a fact, it would be part of its own foundation.

When findings on the foundational facts were not clearly erroneous this court must then determine whether the § 103 answer of the district court is supportable by those findings. As with other statutes, that determination engages this court in an exercise legal in nature.

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[4] Adherence to the statutes, §§ 103, 282 assures avoidance of a seat-of-the-pants judgment that the invention would "be" obvious at the time of trial to the judge or jury.

(b) Precedent

The Supreme Court, the regional Circuit Court of Appeals, and this court have consistently treated the question as one of law.[5]

Graham's statement, "the ultimate question of patent validity is one of law", has been widely interpreted as meaning that one answering the § 103 question is drawing a legal conclusion. And rightly so, because the validity issue in *Graham* turned on that answer and because of what the Court did in *Graham*. It disagreed with conclusions reached below, did not remand, described no finding as "clearly erroneous," and did not mention Rule 52(a).

The Court in *Graham* determined that the facts were (in No. 11) and were not (in Nos. 37 and 43) sufficient to support the lower courts' conclusions on the § 103 question. Similarly, unassailed and unassailable findings here compel our legal conclusion on that question.

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[5] *E.g., Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966); *In re McCarthy*, 763 F.2d 411, 412, 226 USPQ 99, 100 (Fed. Cir. 1985); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 1344, 220 USPQ 777, 782 (Fed. Cir.) (in banc), *cert. denied*, 469 U.S. 830 (1984); *Roberts v. Sears, Roebuck & Co.*, 723 F.2d 1324, 1335, 221 USPQ 504, 514-15 (7th Cir. 1983) (in banc); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1547, 220 USPQ 193, 197 (Fed. Cir. 1983); *Sarkisian v. Winn-Proof Corp.*, 688 F.2d 647, 651 (9th Cir. 1982) (in banc), *cert. denied*, 460 U.S. 1052 (1983); *Julie Research Laboratories, Inc. v. Guildline Instruments, Inc.*, 501 F.2d 1131, 1135-36, 183 USPQ 1, 4-5 (2d Cir. 1974); *Flour City Architectural Metals v. Alpana Aluminum Products, Inc.*, 454 F.2d 98, 105-06, 172 USPQ 341, 345-48 (8th Cir. 1972); *Kolene Corp. v. Motor City Metal Treating, Inc.*, 440 F.2d 77, 81, 169 USPQ 77, 80 (6th Cir.), *cert. denied*, 404 U.S. 886 (1971); *Swofford v. B & W, Inc.*, 395 F.2d 362, 367, 158 USPQ 72, 76 (5th Cir.), *cert. denied*, 393 U.S. 935 (1968); *In re Sporck*, 301 F.2d 686, 690, 133 USPQ 360, 364 (C.C.P.A. 1962).

Both parties and *amicus* agree that the question is one of law, though Dennison goes on to question whether it might be treated as one of fact.

(c) Scholars

A survey of writings on "the vexing nature of the distinction between questions of fact and questions of law," *Pullman-Standard v. Swint*, 456 U.S. 273, 288 (1982), would unduly lengthen this opinion. Scholars who have dealt with the obviousness question unanimously view it as one of law.[6]

(d) Effect

Like all legal conclusions, that under § 103 rests on a factual evidentiary foundation. As said in *Graham*, 383 U.S. at 17, 148 USPQ at 467, the question is determined "against" the "background" of answers to factual inquiries,—a description of how legal questions are normally determined.

One effect of considering the § 103 question one of law in this court is to facilitate a consistent application of that statute in the courts and in the Patent and Trademark Office (PTO).

To contribute to consistency in construing § 103, this court has affirmed judgments while noting noncontrolling misstatements of law and cautioning counsel that judgments are appealed, not opinion language.[7] Controlling misstatements of the legal criteria applicable to § 103 determinations, present in the district court's opinion language in this case, confirm the certain presence of reversible legal error. *See* 774 F.2d at 1091-1100, 227 USPQ at 342-49.

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[6] *See, e.g.*, 2 D Chisum, *Patents*, § 5.04[3] (1986); 1 I. Kayton, *Patent Practice*, 5-11 (1985); 2 E. B. Lipscomb, *Walker on Patents*, § 6:4 (1985); 1 P. Rosenberg, *Patent Law Fundamentals*, § 9.02, at 9-12 to 9-12.1 (1985).

[7] *See, e.g., Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 317, 227 USPQ 766, 771 (Fed. Cir. 1985); *Fromson v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 1556, 225 USPQ 26, 31 (Fed. Cir. 1985); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548-50, 220 USPQ 193, 198-99 (Fed. Cir. 1983).

(e) Decisional Process

The decisional process enroute to a § 103 conclusion involves more than answers to the fact inquiries in *Graham*. It also involves: (1) legal determinations; and (2) legal standards for fact-finding.

(1) Legal Determinations

Analysis begins with a key legal question—*what* is the invention *claimed*? Courts are required to view the claimed invention *as a whole*. 35 U.S.C. § 103. Claim interpretation, in light of the specification, claim language, other claims, and prosecution history, is a matter of law[8] and will normally control the remainder of the decisional process. The district court's claim interpretation in this case constituted compound legal error not subject to Rule 52(a). *See* Part VII.

Another key preliminary legal inquiry is—what is the prior art? Before answering *Graham's* "content" inquiry, it must be known whether a patent or publication is in the prior art under 35 U.S.C. § 102,—a legal question.[9] In this case, for example, the '869 tie was not prior art and the district court's primary reliance on it was legal error not subject to Rule 52(a). *See* Part X.

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[8] *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 932 (Fed. Cir. 1984); *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 (1984).

[9] *See In re Hall*, 781 F.2d 897, 899, 228 USPQ 453, 455 (Fed. Cir. 1986); *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 649-50, 223 USPQ 1168, 1171-72 (Fed. Cir. 1984). Whether something legally within the prior art is "analogous" is a fact question on "content" of the prior art. *See Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 313-14, 227 USPQ 766, 768-69 (Fed. Cir. 1985); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1535, 218 USPQ 871, 876 (Fed. Cir. 1983).

(2) Legal Standards

Clarity in the law requires universal application of the same legal standards to fact-finding functions performed enroute to final § 103 conclusions.

Among legal standards for determining *scope* and content of the prior art, for example, are: a prior patent must be considered in its entirety, i.e., as a *whole*, including portions that would lead away from the invention in suit, *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550, 220 USPQ 303, 311 (Fed. Cir 1983), *cert. denied*, 469 U.S. 851 (1984); elements of separate prior patents cannot be combined when there is no suggestion of such combination anywhere in those patents, *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); and a court should avoid hindsight, *W.L. Gore & Associates, Inc.*, 721 F.2d at 1553, 220 USPQ at 313. Failure here to employ established legal standards led to the second set of findings nonprobative and clearly erroneous under Rule 52(a). *See* Part X.

Conclusion on Part I

A determination that an invention would have been obvious when it was made to one of ordinary skill in the art under § 103 is thus a conclusion of law based on fact. The "degree to which" it is one of fact is solely that degree required to erect a foundation of facts capable of supporting the conclusion, those facts having been found by applying correct legal standards and expressed in findings free from clear error and based on clear and convincing evidence.

A determination that an invention would not have been obvious when it was made to one of ordinary skill in the art is also a conclusion of law. At trial's outset, that conclusion is in place. *See* § 282 and Part III. The factual questions are those raised by the patent challenger in an effort to replace the existing with a contrary conclusion, and those, if any, raised by the patentee in rebuttal of the challenger's case.

Part II

Applicability of Rule 52(a) to the § 103 Issue

Graham, Anderson,[10] Rule 52(a), and the clearly erroneous standard have, before the remand, been consistently applied by this court in affirming judgments that upheld a patent and judgments that struck down a patent.[11] In the case at bar, our earlier opinion having noted that reversal was required by legal error and the district court's correct and controlling findings on objective evidence of nonobviousness, explicit reference to Rule 52(a) was not made.[12]

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[10] *Anderson v. City of Bessemer City*, 470 U.S. 564, 574 (1985) ("Where there are two permissible views of the evidence, the fact finder's choice between them cannot be clearly erroneous.").

[11] A partial list of pre-April 1986 cases in which this court has applied Rule 52(a), *Graham*, and *Anderson* would include: *Windsurfing International, Inc. v. AMF Inc.*, 782 F.2d 995, 1000, 228 USPQ 562, 566 (Fed. Cir.), *cert. denied*, 106 S. Ct. 3275 (1986); *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 313, 227 USPQ 766, 768 (Fed. Cir. 1985); *Atlas Powder Co. v. E.I. Du Pont De Nemours & Co.*, 750 F.2d 1569, 1573, 224 USPQ 409, 411 (Fed. Cir. 1984); *Shelcore, Inc. v. Durham Industries, Inc.*, 745 F.2d 621, 625-26, 223 USPQ 584, 587 (Fed. Cir. 1984); *Jervis B. Webb Co. v. Southern Systems, Inc.*, 742 F.2d 1388, 1393, 222 USPQ 943, 946 (Fed. Cir. 1984); *Vandenberg v. Dairy Equipment Co.*, 740 F.2d 1560, 1565, 224 USPQ 195, 197 (Fed. Cir. 1984); *Radio Steel & Manufacturing Co. v. MTD Products, Inc.*, 731 F.2d 840, 846, 221 USPQ 657, 661-62 (Fed. Cir.), *cert. denied*, 469 U.S. 831 (1984); *Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 823, 221 USPQ 568, 572 (Fed. Cir. 1984); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 1344-45, 220 USPQ 777, 782-83 (Fed. Cir.) (in banc), *cert. denied*, 469 U.S. 830 (1984); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1535, 218 USPQ 871, 876 (Fed. Cir. 1983); *Carl Schenck, A.G. v. Nortron*, 713 F.2d 782, 785, 218 USPQ 698, 700 (Fed. Cir. 1983).

[12] *See, e.g., Pullman-Standard v. Swint*, 456 U.S. 273, 287 (1982) (findings based on erroneous view of the law may be set aside on that basis alone); *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1547, 220 USPQ 303, 308 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) ("Where, as here, dispositive legal error occurred in interpretation and application of the patent statute,

(Footnote continued on following page)

Rule 52(a) is applicable to all findings on the four inquiries listed in *Graham*: scope and content of prior art; differences between prior art and claimed invention; level of skill; and objective evidence (secondary considerations). The last may include: commercial success due to the invention; failure of others; long felt need; movement of the skilled in a different direction; skepticism of experts (*see United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966)); copying the invention in preference to the prior art (*see Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U.S. 428, 441 (1911)); and other events proved to have actually happened in the real world (hence the description "objective").[13]

Rule 52(a) is thus fully applicable to all findings on which the § 103 issue is decided, but findings must be made on, and the § 103 issue must be decided in light of, all the probative evidence.

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[12] *continued*

35 U.S.C., the parties' arguments relating to the salutory injunction of Fed. Rule Civ. P. 52(a) cannot be controlling on all issues.").

Dennison's brief on appeal correctly said Panduit had to carry its burden on appeal by establishing *either* legal error *or* erroneous findings, citing *Fromson v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 1555, 225 USPQ 26, 30 (Fed. Cir. 1985).

Dennison's brief also charged the district court with *legal error* in rejecting Dennison's delay defense. This court affirmed, expressly adding that certain findings were *not clearly erroneous*. 774 F.2d at 1100, 227 USPQ at 350.

[13] Another description: "Circumstantial evidence of the highest probative value." Rich, *Laying the Ghost of the "Invention" Requirement*, in Nonobviousness—the Ultimate Condition of Patentability 1:501, 513 (J. Witherspoon ed. 1978). "In appraising an inventor's contribution to the art . . . the most reliable test is to look at the situation before and after it appears." *Safety Car Heating & Lighting Co. v. General Electric Co.*, 155 F.2d 937, 939, 69 USPQ 401, 402 (2d Cir. 1946) (L. Hand, J.); *see also Graham*, 383 U.S. at 17-18, 148 USPQ at 467.

Part III

The Statutory Burden of Proof

It is neither necessary nor appropriate for a court to declare a patent valid.[14] A trial court is required by Congress, 35 U.S.C. § 282, *supra* note 1, to say only whether the patent challenger carried its burden of establishing invalidity in the particular case before the court. 774 F.2d at 1096, 227 USPQ at 346. When the burden has not been carried, a court need only so state. When that burden has been carried, the court should declare the patent invalid. The *statute* makes a patent presumptively valid when issued and imposes the burden of establishing invalidity on the challenger.[15] It is the judiciary's duty to follow statutes that requires a trial court lacking a conviction of obviousness to hold that the challenger's burden was not carried.[16] Thereupon, the patent simply remains valid until another challenger carries the § 282 burden.

The presumption mandated by § 282 is applicable to all of the many bases for challenging a patent's validity. When, as here, the sole challenge is an allegation of obviousness, the presumption is that the invention would not have been obvious.

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[14] *Environmental Designs, Ltd. v. Union Oil Company of California*, 713 F.2d 693, 699 n.9, 218 USPQ 865, 871 n.9 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984).

[15] As this court has said, the presumption of validity is procedural, not substantive, 774 F.2d at 1097, 227 USPQ at 347, but its burden assignment cannot be transferred. The district court here spoke of *plaintiff's* "errors" (reliance on claim limitations and disregard of general principles of physics/common experience) affecting the "plaintiff's case." But plaintiff Panduit, contrary to the impression it apparently itself created, had no "case" or burden to "prove" validity. As explained in this court's opinions in this case, the district court erred in law in its disregard of the claim limitations and in its reliance on principles of physics/experience.

[16] "Judicial power is never exercised for the purpose of giving effect to the will of the judge; always for the purpose of giving effect to the will of the legislature; or, in other words, to the will of the law." *Osborn v. Bank of the United States*, 22 U.S. (9 Wheat.) 738, 866, 6 L.Ed. 204, 234 (1824) (Marshall, C.J.).

A determination of anticipation under 35 U.S.C. § 102 may be reached by comparing only the claims and a prior art disclosure submitted by the patent challenger. A determination that a patent challenger has not carried its § 282 burden under § 103 may be reached on consideration of only the evidence submitted by the patent challenger. A determination that a patent challenger has carried its burden of establishing obviousness under § 103, however, requires full consideration of any objective evidence of nonobviousness presented in rebuttal. That § 103 issue cannot fairly be decided on only one party's part of the evidence (e.g., patent challenger's prior art), while disregarding the compelling impact of the other party's part (e.g., patentee's objective evidence). Nor is there warrant for singling out § 103 as an area in which courts may disregard the probative force of any part of the evidence.[17]

As noted at 774 F.2d at 1099 n.24, 227 USPQ at 349 n.24, patent challenger Dennison told the trial court it should disregard the objective evidence of nonobviousness unless it were "undecided" after viewing only the prior art. Dennison mischaracterized this court's opinion in *W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984), as support for that misstatement of law. The district court accepted and applied that erroneous legal analysis. Thus the court decided on only part of the evidence, disregarded the controlling impact of its own unchallenged findings on the objective rebuttal evidence of nonobviousness (evidence that may be, as here, the *most* probative), and shifted the statutory burden of proof.

One sued for patent infringement has over twenty possible defenses. Respecting the "would have been obvious"

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[17] For a court to disregard the decision-directing impact of any evidence enroute to any conclusion on any issue, would be to dim what Coke called the "gladsome light of jurisprudence." COKE, *First Institute: Epilogue.*

defense, misperceptions in pre-1982 court opinions[18] have led this court to say the judicial process requires that a court withhold a conclusion of obviousness until it has fully assessed the impact of any objective evidence of nonobviousness. Only then can a court base its judgment, as it must, on *all* probative evidence of record.[19]

Consideration of all the evidence may or may not require a conclusion that what may appear obvious *to the court*[20] would not have been obvious (because for years it was not) to those of ordinary skill when the invention was made. When a district court has admitted evidence and made findings establishing nonobviousness, disregard of their legal impact is a jurisprudentially improper approach gravely damaging the concepts of fair trial and principled decisionmaking under the statutes, §§ 103, 282.

This court's many judgments of patent invalidity show that § 282 and a requirement to consider all evidence does not unduly burden patent challengers. Nonobviousness evidence must be weighed along with closeness of the prior art and other evidentiary factors such as nexus with the claimed invention; see for example the discussion in cases in which this court has affirmed a district court's assign-

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[18] *See, e.g., Republic Industries, Inc. v. Schlage Lock Co.*, 592 F.2d 963, 975-76, 200 USPQ 769, 782 (7th Cir. 1979).

[19] *Simmons Fastener Corp. v. Illinois Tool Works, Inc.*, 739 F.2d 1573, 1574-75, 222 USPQ 744, 746 (Fed. Cir. 1984), *cert. denied*, 471 U.S. 1065 (1985); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538-39, 218 USPQ 871, 879 (Fed. Cir. 1983).

[20] At trial, Panduit's counsel quoted the trial court's modest statement in an earlier case: "[I]f I think I might have gotten some clue from this myself, then I know it's obvious to anybody that has anything like ordinary skill." The court responded: "That is the way I tend to feel." In *Stratoflex*, 713 F.2d at 1538, 218 USPQ at 879, this court pointed out that the test under the statute is *not* whether an invention appears obvious "to a judge . . . after learning all about the invention."

ment of little weight to objective evidence that was insufficient for varying reasons.[21]

The district court here recognized that the prior art was not close, expressly faulting Panduit for relying on that fact. *See supra* note 15 and 744 F.2d at 1089-90, 227 USPQ at 341. Evaluated under established legal standards, the prior art here was so remote as not to have suggested anything like the claimed inventions to those working for years and at great expense to design a successful cable tie. As discussed in our earlier opinion, the district court erred in holding to the contrary.

The strong evidence of nonobviousness, and its inescapable refutation of the view that the claimed inventions would have been obvious from the prior art, are what distinguish this case from some others. As the district court said, "This is a case which presents that issue [effect of nonobviousness evidence] as clearly as any I've seen." That evidence, coupled with the remoteness of the prior art, also resolves in this case the "difficulties" seen in *Graham*, 383 U.S. at 18, 148 USPQ at 467.

According to the uncontroverted evidence, with the prior art before its researchers for years, Dennison conducted a long, expensive research project and produced its "ladder" tie, a tie entirely different from those of the claims in suit. Then, as the court found, Dennison copied Caveney's inventions. When sued, it resurrected that same art for litigation purposes, saying what it copied from Caveney had been obvious to Dennison all along. Even then, knowing from Caveney's patents where it wanted to go at trial, Dennison could only misconstrue the claims and reconstruct the prior art to make it look

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[21] *E.g., Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 315-16, 227 USPQ 766, 770-71 (Fed. Cir. 1985); *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1026-27, 226 USPQ 881, 887-88 (Fed. Cir. 1985); *Vandenberg v. Dairy Equipment Co.*, 740 F.2d 1560, 1567, 224 USPQ 195, 199 (Fed. Cir. 1984); *Kansas Jack, Inc. v. Kuhn*, 719 F.2d 1144, 1151, 219 USPQ 857, 861 (Fed. Cir. 1983). Sufficiency and nexus are clear in the present case.

like what it copied. Dennison's obviousness defense is clearly refuted in this case by the unrefuted record of its own long and frustrating experience and that of others.[22] Dennison clearly did not carry its § 282 burden of proving that Caveney's claimed inventions would have been obvious under § 103.

Part IV

Caveney's Inventions—Effect of His Claims

The drawings may be deceptive in seeming to show merely a simple, small, plastic tie.[23] The contrary however, is established by the undisputed record, including the testimony of Dennison's own engineer witnesses quoted at 774 F.2d 1096, 227 USPQ 346, e.g., "a good tie is a damn difficult thing to design, extremely difficult". Caveney's particular claimed cable ties constitute important contributions achieved not easily but only after years of effort and investment of a million research dollars,—and never achieved in years of research by Dennison, whose tie designs did not remotely resemble the claimed ties until it copied them.

It was undisputed that the ties of Caveney's '538 patent, for example, are applied to groups of parallel cables by an installing machine, reliably and safely holding

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[22] In *Graham*, 383 U.S. at 36, 148 USPQ at 474, the Court noted "in the circumstances of [that] case" that unsuccessfull attempts of others before issuance of the uncited Livingstone patent (showing a device virtually identical to Scoggins'), and failure of others to acquire the knowledge of Livingstone stored in the Patent and Trademark Office (PTO), could not tip the scales of patentability. Here the scales are tipped, for Caveney alone disclosed his claimed combination, no pertinent prior art patent went uncited, the attempts of Panduit, Dennison and others continued right up to the time Caveney made his inventions, and Dennison's engineers had all the prior art patents before them throughout their years of research effort.

[23] Dennison repeatedly emphasizes what is legally innocuous, i.e., that most cable ties employ straps, heads, and locking elements.

together the many cables in critical environments such as jet airliners. Caveney's contribution to the safety of the airline riding public is a social benefit.

Though technology has burgeoned, the patent system is not limited to sophisticated technologies and powerful corporations. Nowhere in the statute or the Constitution is the patent system opened only to those who make complex inventions difficult for judges to understand and foreclosed to those who make less mysterious inventions a judge can understand after hearing, as here, the inventor's explanation of his invention and the engineering principles he employed. The constitutional purpose is to encourage disclosure of patentable contributions to "progress in the useful arts", *all* the useful arts, not just the esoteric. The statute requires utility, novelty, and nonobviousness, not complexity.

That cable ties look alike to a casual observer who sees only straps, heads, and locking elements is not determinative. What is determinative and unchallenged on this record is that those elements were available to workers in the art for years before Caveney made his inventions (and remain available today). In viewing the prior art, the district court improperly treated all cable ties as virtually interchangeable (after hearing all about Caveney's inventions and then viewing the ease with which creative defense counsel reconstructed the prior art at his easel). The fact is clear and unchallenged on the record, however, that the crucial structural distinctions set forth in the claim limitations gave the claimed inventions the distinction that led the industry and Dennison to prefer Caveney's structure over anything in the prior art.

Dennison submitted no tests and no testimony challenging the superiority of the claimed ties found by the district court. Nor did it submit evidence that any prior cable tie suggested Caveney's crucial claimed structural limitations that accounted for the success of his inventions.[24]

[24] Nor did Dennison anywhere suggest a reason, other than their great superiority, for its compulsion to copy Caveney's inventions.

The claims are not mere semantic exercises and the present inventions are not insignificant variations or innovations of a commonplace sort. *Graham*, 383 U.S. at 16, 148 USPQ at 466. The district court found that Caveney achieved and disclosed a "preeminent commercial product" long sought without success by others. Thus Caveney trod well the long and failure-strewn path not only to the Patent Office, *id.* at 19, 148 USPQ at 467, but to a successful and useful product.

The sole effect of the grant to Caveney of the property right, 35 U.S.C. § 261, to exclude others for a limited time from unauthorized use of his inventions is to require that others avoid the claimed structure newly disclosed to the public in the patent documents. Thus Caveney's claims do not remove existing knowledge from the public domain, for there was no such knowledge until Caveney disclosed it in his patents. Nor do those claims restrict access to materials earlier available, for those materials remain available. Contrary to the misstatement by Dennison to the trial court and to the Supreme Court, *see* Appendix, the patent law is and has always been clear, certain, and immutable that, during the short life of the patents in suit, Dennison and all workers in the art remain perfectly free to employ and combine straps, heads, and pawls as those elements were before the Caveney inventions. They need only avoid Caveney's own novel combination and structure as claimed. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983).[25]

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[25] In simple truth, Dennison and others had all the prior art elements available for years, and still do, and always will. Dennison was going its own and different way. When Caveney developed "his way," he added to the sum of new and useful knowledge and showed the way to success. Dennison at that point copied Caveney's way and appropriated to itself a large share of his success.

The law is symmetrical. In considering validity and infringement, Caveney's claims must be viewed as drawn to the combination, not to any one element in the combination.

Under our economic and patent systems, valuation of the *worth* of an inventor's contribution is left to the public, *not* to the judiciary in determining patentability. A judge is nowhere authorized to declare a patent invalid on his or her personal evaluation. *Graham's* statement, "emphasis on nonobviousness is one of inquiry, not quality," 383 U.S. at 17, 148 USPQ at 467, can be seen as a recognition that judges are not to decide whether *they* think a particular invention "ought" to be patented. And that is well. Were it otherwise, a letter to the court would do, and trials, Title 35, and the PTO would be unnecessary.[26]

Though not all inventions achieve public acceptance, many millions in annual sales ($50 million for Panduit alone), with accompanying taxes and jobs, resulted from Caveney's inventions in the hands of assignee Panduit and admitted copier Dennison. It is undisputed that Caveney's patented ties are novel and useful. The district court found that Caveney's '538 tie leads the industry, and the unchallenged record shows the industry centering on Caveney's inventions, which made owner Panduit No. 1 and copier Dennison No. 2 or 3 in the industry. Caveney's inventions meet the constitutional purpose, for they are classic examples of what the Framers intended when they referred to "Progress of . . . useful Arts." U.S. Const. art. I, § 8, cl. 8.

Part V

This Court's Earlier Opinion— District Court's Approach

In its earlier Opinion section, this court focused on the law governing obviousness and burden of proof, §§ 103, 282, and on the impact of the district court's uncontestably[27] correct findings compelling a conclusion of nonobviousness. We expand, somewhat, that focus here.

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[26] *See supra* notes 16 and 20.

[27] Dennison's conjectural argument against commercial success is refuted by its own handsome success with its copied product on

(Footnote continued on following page)

The law must be the same for all patents and types of inventions. A level playing ground for the marketplace of ideas is as necessary for technological innovation as it is for politics and social policy. If the district court's decisional approach in this case were deemed permissible, it would defeat those goals, for it would destroy every patent, frustrate Congress' effort to effectuate its constitutionally granted power and the Framer's intent to promote progress in the useful arts, and disserve the nation's need to encourage research investment. It would also rend asunder the entire body of § 103 law established in this court's precedents since its creation on October 1, 1982.[28]

No effective, uniform, reliable patent system could long survive if the law permitted a decisional approach to § 103 determinations like that here employed by the district court and suggested in Dennison's Petition for Certiorari: (1) interpreting claims by redrafting them to one word; (2) implying that that word describes the "differences"; (3) picking from a prior patent an item describable by that word (in effect finding *no* differences); (4) focusing on isolated minutiae in a prior art patent while disregarding its scope, i.e., its entire disclosure, and how its

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[27] *continued*
which all three representative claims read. Dennison also argued that its failed research efforts were due to manufacturing difficulties, yet it experienced none in copying Caveney's ties. In sum, Dennison's arguments are refuted by the record and by the district court's findings.

[28] *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 876-77, 228 USPQ 90, 100-01 (Fed. Cir. 1985):

> The patent system, which is rooted in the United States Constitution (Art. I, § 8, cl. 8), serves a very positive function in our system of competition, *i.e.*, "the encouragement of investment based risk." *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 599, 225 USPQ 243, 247, *modified on other grounds*, 771 F.2d 480, 226 USPQ 985 (Fed. Cir. 1985). By so doing, it "encourages innovation and its fruits: new jobs and new industries, new consumer goods and trade benefits." *Paulik v. Rizkalla*, 760 F.2d 1270, 1276, 226 USPQ 224, 228 (Fed. Cir. 1985) (in banc).

disclosed structure works; (5) making no finding of a suggestion (because there was no evidence thereof) that items found separately in prior patents could or should be shaped positioned, related, and combined as in the claim; (6) considering as prior art what was not; (7) considering not the problem solved by the invention (here a successful cable tie), but speculating on a "problem" of how prior devices might be reconstructed to match the claimed structure, with the benefit of hindsight aided by the inventor's engineering testimony about the inventions in suit;[29] (8) determining, years later, that an invention had been obvious all along from the prior art to one of ordinary skill, in the face of a conclusive finding that it had not, and thus would not have, been obvious from that same art to others, including the many highly skilled engineer-cable designers of Panduit and Dennison who had diligently tried and failed for years, at great expense, to design a successful cable tie; (9) disregarding the impact on the § 103 conclusion of the unchallenged finding that others aware of the prior art, including the infringer's cable tie designers, did not find the claimed inventions obvious but were proceeding in directions entirely different from that of the inventor; (10) disregarding the impact on the obviousness conclusion of the unchallenged conclusive evidence that the infringer, with the prior art before it, after years of research (during which, as its own witness said, it was "tantalizingly close," 774 F.2d at 1096, 227 USPQ at 346), and after patenting many of its entirely different "ladder" type ties, did not find the inventions obvious but deemed it necessary to study Caveney's patents and, as the court unequivocally found, "finally came up with" its copy of the inventions; and (11) holding an

[29] The district court, as did Dennison's expert, used Caveney's patents and his testimony as an instruction book on how to reconstruct the prior art. *See* Arnold & Nation, *Proving Section 103 Nonobviousness*, in Nonobviousness—The Ultimate Condition of Patentability 4:1, 43-44 (J. Witherspoon ed. 1978) (after reading Abraham Lincoln's Gettysburg Address, one may easily re-create it by selecting words from the dictionary).

invention obvious on the basis of "engineering principles" taught the court by the inventor and a subjective view of "common experience" in the face of its own unchallenged finding that the same "principles/experience" did not make that invention obvious to others who, with the prior art before them, went for years in other directions, which others included the highly skilled engineers at Panduit and Dennison who were fully aware of those same principles and who had even more relevant experience in the art.[30]

Virtually all inventions are necessarily combinations of old elements.[31] The notion, therefore, that combination claims can be declared invalid merely upon finding similar elements in separate prior patents would necessarily destroy virtually all patents and cannot be the law under the statute, § 103.[32]

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[30] Exercise of the hindsight faculty is facilitated when, as here, a party has its expert witness make sketches reconstructing the prior art by inserting as elements of a claim parts selected from separate patents, asks the witness if he finds each of those inserted elements in that sketch, and submits the sketch as evidence. See *Graham*, 383 U.S. at 36, 148 USPQ at 474, for the value of objective evidence as a guard against hindsight and the temptation to read the inventor's teachings into the prior art.

Further, to deem permissible the approach and theories of counsel described in our earlier opinion would be to resurrect the obfuscation of the law and the resulting nonuniformity and nonreliability in our national law of patents that Congress sought to alleviate when it created this court. *See* S. Rep. No. 275, 97th Cong, 1st Sess. 3-6, *reprinted* in 1982 U.S. Code Cond. & Ad. News 11, 13-16.

[31] *See Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1566, 220 USPQ 97, 99-100 (Fed. Cir. 1983); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1540, 218 USPQ 871, 880 (Fed. Cir. 1983); *Reiner v. I. Leon Co.*, 285 F.2d 501, 503, 128 USPQ 25, 27 (2d Cir. 1960) (L. Hand, J.) ("substantially every invention is for such a 'combination' "); and our earlier opinion, 774 F.2d at 1093, 227 USPQ at 344.

[32] We do not imply that Caveney's elements *as claimed* were all old. On the contrary, the district court did not find, as it could not, that the structural elements *as claimed* were shown or suggested anywhere in the prior art. *See* Part IX.

As explained in our earlier opinion and more fully here, *see* Parts III, IX, the district court's finding that Dennison's effort to carry its § 282 burden with clear and convincing evidence left "room for some difference of opinion," *see* Part IX, should have ended the obviousness inquiry, and, infringement having been conceded, should have resulted in judgment for Panduit. In holding otherwise, the court gave but lip service to § 282 and effectively transferred the burden of proof fixed by the statute.[33]

Part VI

The Claims Identified

The parties stipulated that decision on validity of four "representative" claims would be determinative for all. Trial was conducted on only those four claims. Only three of those claims were considered by this court on appeal.[34]

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[33] Though our earlier judgment has been vacated, our earlier opinion, familiarity with which is presumed, remains in the books. In our earlier opinion: "filed over three months after the '869 patent application" should be deleted from 774 F.2d at 1088, 227 USPQ at 340; "(filed three months after the '538 patent application)" should be deleted from *id.* at 1089, 227 USPQ at 340; "alone" should be inserted before "had", and "the two references pointed to by the district court as disclosing multiple teeth and" should be deleted, in footnote 18, *id.* at 1093, 227 USPQ at 344. None of those errata affects in any way the reasoning or evidentiary and legal considerations on which our earlier reversal was based, and we find no basis for changing any other portion of our earlier opinion. For a full understanding, our earlier and present opinions should be read together.

[34] Panduit's appeal dealt with only claim 24 of the '146 patent, claim 6 of the '538 patent, and claim 10 of the '869 patent. Claims must be individually considered. § 282. The numerous nonrepresentative claims were never presented to or discussed by the trial court or this court. Our judgment is necessarily limited to the three claims considered on appeal and included in the appendix at 774 F.2d 1102-04, 227 USPQ 351-52. (Claim 1 of the '538 patent was added because claim 6 includes all limitations of claim 1.) The parties' stipulation does not substitute for a judgment by this court on the nonrepresentative claims.

The district court, in "Supplemental Findings and Conclusions" prepared by Dennison, listed 30 claims as "tried to the court." (See the Appendix for Dennison's presentation to the Supreme Court of claim 26, which was listed but was *not* among the four "representative" claims tried to the court and was *not presented to this court.*)

Part VII

Erroneous Claim Interpretations

In interpreting the claims, the district court committed fundamental legal error when it analyzed each by a single word description of one part of the claimed tie. In patent law, a word ("teeth"; "hinge"; "ledge") means nothing outside the claim and the description in the specification. A disregard of claim limitations, as here, would render claim examination in the PTO meaningless. If, without basis in the record, courts may so rewrite claims, the entire statutory-regulatory structure that governs the drafting, submission, examination, allowance, and enforceability of claims would crumble.

The court's interpretations were doubly contrary to Congress' statutory scheme. First, the claim must particularly point out and distinctly claim the invention. 35 U.S.C. § 112. Second, the "subject matter" that must have been obvious to deny patentability under § 103 is the entirety of the claimed invention, a concept Congress nailed down with the next statutory phrase "as a whole".[35]

When the prior art is compared with erroneously interpreted claims, findings of differences between the prior art and the claims will necessarily be clearly erroneous. When the sole error lies in claim interpretation, a remand for comparison of the prior art with properly interpreted claims is required. Here, however, the error occurred also in: disregard of clear findings of such legal significance as to have left undisturbed the presumption of nonobvious-

[35] The concept applies as well to infringement. Dennison did not take one of Caveney's words; it took his whole invention.

ness that attached when the patents issued; the application under § 103 of erroneous criteria, *see* Parts V, IX; and reliance on prior art so remote from the properly interpreted claims at issue as to preclude a conclusion of obviousness from that art.

The district court erroneously interpreted claim 24 of the '146 patent as drawn only to multiple "teeth":

> I conclude that this [claim limitations] is a description of one element, not three.

The district court erroneously interpreted claim 1 of the '538 patent[36] as drawn only to a "hinge":

> And that is the essence of '538 patent, the discrete hinge.

The district court erroneously interpreted Claim 10 of the '869 patent as drawn only to a "ledge":

> It seems to me, and I so find, that to increase the compressive strength of the cable tie, and specifically the pawl and hinge of the cable tie, you would set the pawl on a ledge.

The district court improperly dismissed the novel structural claim limitations that defined the disposition, positioning, relationship, and operation of the elements in the claims. The ignored claim limitations, however, define crucial structural elements of the invention as a whole, and clearly distinguish (and bind the inventor to the distinction) the whole claimed device from those in prior patents. The prosecution history and the 15 prior patents cited in

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[36] Claim 6, which includes all limitations of claim 1, was the "representative" claim. The court correctly found that Orban showed a pawl in the as molded position, but erred legally in holding claim 6 invalid on that ground. Claim 6 merely adds a limitation to those in claim 1. It would become meaningful only if claim 1 were invalid and the added limitation were relied on for patentability. That one limitation in claim 6 is shown in a prior patent does not render the entire claim invalid. Because claim 1 is not invalid, the presence of all its limitations in claim 6 preserves the latter's validity.

the PTO establish that no claim was allowed on the mere presence of multiple "teeth",[37] or of a "hinge", or of a "ledge". The claims, with their present detailed content, resulted from extensive interaction with the Patent Examiner. The district court pointed to nothing in the prior art that suggested any of the *claimed* constructions.

Interpreted in the light of the specification, claim language, prosecution history, and the other claims, the claims at bar are drawn to entire combinations as set forth at 774 F.2d 1102-04, 227 USPQ 531-52. Each of the numerous limitations of each claim was fully considered in the PTO. If Dennison had avoided in its ties the presence of any *one* limitation in a claim, it would have avoided infringement of that claim. It was a clear error of law for the district court to have ignored the limitations clearly set forth in the claims.

Part VIII

The Findings In General

As above indicated, the district court's opinion indicates that it made two sets of findings. It referred to its

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[37] That multiple "teeth" was not "the obvious solution" seen by the district court is further confirmed by the unchallenged documentary record. Before and after Caveney made his '146 invention, other workers in the art designed, and disclosed in their patents, cable ties not only with multiple teeth but with *one-toothed* pawls and locking elements. (*See* Rapata 2,936,980; Emery; Schwester 3,186,047; Geisinger 3,339,246; Orban 3,368,247; Eberhardt 3,484,905; Kahapka 3,542,321; Fay 3,766,608; The Japanese Patent.) Moreover, neither patent the court cited as showing multiple teeth (Fein or Litwin) involved or suggested their use on a nonreleasable pawl pivotable inside a head having an abutment wall with all of the teeth wedging against that wall.

Had the district court applied the legal standard requiring consideration of the entire prior art as a whole it would have noted the correct decisional thrust of its original statement that "others were going in different directions." Noting the different paths followed by those skilled in the art, the court would not have been as likely to have substituted its own view that "with no prior art at all" the claimed invention "is [sic, would have been] obvious."

reality—based first set (clear, fully supported findings on undisputed concrete objective real-world evidence of nonobviousness) not in terms of its operative legal significance, but only in terms of the uncertainty that set created. *See* Part IX. It decided the issue on its speculation-based second set (nonprobative and clearly erroneous findings on prior art modified by Dennison and disputed by Panduit at trial). *See* Part X.

We cannot see why the district court's first set of findings did not require a conclusion that Caveney's inventions, which had for years escaped others who sought them, "would not have been obvious" under § 103; nor why Panduit and Dennison wasted research resources for years if Caveney's inventions were obvious to all throughout those years; nor how the prior art made Caveney's eminently successful inventions obvious to the court in 1984 when it had not made them obvious to skilled engineers (each more skilled than the "ordinary mechanic" referred to in *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 261 (1851)) who had been designing unsuccessful or far less successful cable ties for years when Caveney's inventions were made in the 1960's.

The district court did deal with the six most relevant patents (all but one were cited by the Patent Examiner). Not one of those patents, however, disclosed a tie remotely approaching the structure or success of the claimed ties. Not one disclosed or suggested all the claimed structural limitations. Not one disclosed or suggested Caveney's claimed combinations. Not one disclosed teeth, a hinge, or a ledge *as claimed*. Nor was there evidence or finding that the patents together suggested the claimed combination.

Though the district court said it "found" the combination obvious, the sole support for that "finding" (sic, conclusion) was the presence in separate prior patents of individual elements differing greatly in shape, position, relation, combination, and function. In relying thereon, the court made a fundamental mistake. A holding of invalidity on that basis, as above indicated, is contrary to statute and

would defeat the congressional purpose in enacting Title 35.

Indeed, that the elements noted by the court lay about in the prior art available for years to all skilled workers, without, as the court found, suggesting anything like the claimed inventions, is itself evidence of nonobviousness.

The district court did not follow established legal standards (Part I) in finding the content of the prior art. 774 F.2d at 1087-89, 227 USPQ at 339-41. It treated no claim, nor the entire prior art, nor any prior patent "as a whole," but selected bits and pieces from prior patents that might be modified to fit its legally incorrect interpretation of each claim as consisting of one word.[38]

Instead of making express findings on the structural differences as *claimed*, the district court took the *legal* steps of erroneously interpreting: the '146 claim as a one-word (teeth) "solution" to a "problem" (looseness) not disclosed in the Emery patent; the '869 claim as a one-word (ledge) "solution" to a "problem" (compression) not disclosed in any prior patent; and the '538 claims as a one-word (hinge) "solution" to a "problem" (rigidity) it saw in the *nonprior-art* tie of the '869 patent, a tie that *did not exist* when the invention defined in the '538 claim was made.[39]

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[38] Unlike *Graham*, all prior art patents dealt with here by the court had been cited against one or more of Caveney's patents by the Examiner in the PTO (except the even more remote Japanese patent). The district court said that if it were right and the Examiner wrong, that may be because the Examiner was confused by the eight applications filed by Panduit over two years as listed in DX 60. In 1985, the large examining corps disposed of 128,721 applications, an average of less than two applications per Examiner per week. Commissioner of Patents and Trademarks, 1985 Annual Report 21, 44. The conjecture on Examiner confusion is unwarranted and unsupported. As indicated at 774 F.2d 1094, 227 USPQ 345, the difference between the court and the Examiner in this case lies in adherence by the latter to the statute and legal standards for evaluating prior patents and claimed inventions.

[39] The '869 invention was made after the '538 invention. The applications for those patents were filed within a five-day period,

(Footnote continued on following page)

The court specifically found, *see* Part IX, that Caveney's patents disclosed the best ties in the art. It then spoke of "analogous" items, "expected results" from "ordinary steps," "engineering principles," and "common experience." It nowhere reconciled those evaluations with its contrary findings that no one skilled in the art had for years been led to those evaluations by the prior art. The court's treatment emasculated the crucial, critically important *structural limitations* that distinguish the claimed inventions from the prior art and that were the key to success of Caveney's inventions.[40]

Part IX

Findings On the Evidence of Nonobviousness

As recognized by this court and by the Supreme Court in the remand, the district court did articulate much of the correct approach. The court also said "I have done everything I am supposed to do." The court's characterization of its action, and its statement that it knew of the presumption of validity, are not findings and not subject to Rule 52(a).

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[39] *continued*
but the '869 patent issued first. That and presentation at trial of the '869 patent before the '538 patent appear the basis for the district court's mistake. Though legally improper under § 102, the district court's treatment is of interest on a different plane. When the '869 patent issued, Dennison copied it. PX 12. When the '538 patent issued, over *four years later,* Dennison copied that. PX 13. What the district court saw as obvious in the '538 patent was thus clearly shown not to have been obvious to Dennison's engineers over those four years. It simply makes no sense, under the law or the evidence, to say the '538 invention would have been obvious in light of the '869 patent.

[40] In resting its conclusion on speculation about how the skilled *would* employ "engineering principles" and "common experience," in the face of irrefragable proof that they did not for years so employ them, the court approached the area foreclosed by the last sentence of § 103, "Patentability shall not be negatived by the manner in which the invention was made."

As noted in our earlier opinion, in any event, the court totally *abandoned* the approach it had articulated. With admirable candor, the court expressed the uncertainty created by the conflict between its conclusion and its clear findings on the evidence of nonobviousness:

> Now I want to return to where I started and say that I think Mr. Caveney and Mr. Moody and Panduit have designed and perfected an excellent and, indeed, preeminent commercial product, and the fact that they have done so contributed greatly to the difficulty of this case. *It is not easy to find something obvious* in the face of those facts. And *I do so with great reluctance and great resistance.* And in fact *I have been going back and forth* on this thing in my mind throughout the trial.
>
> It gives me *great comfort to know that I am just the first stop* on this trip. Everything I have said here *can be analyzed just as well by the Court of Appeals* for the Federal Circuit.[41]
>
> All the documents are here, the testimony is there for them to read, and if they come to a different conclusion than I, so be it.
>
> This is a case in which the credibility of the witnesses has really played a very small part. It is primarily, it seems to me, a matter of applying your experience to the undisputed facts. It's a matter of *interpreta-*

[41] Despite the district court's invitation to analyze and come to a different conclusion, we do not here merely accept its first set of findings and reject its second set as clearly erroneous. Findings in the second set that this patent disclosed teeth and that disclosed a hinge need not be set aside and may be accepted without effect on the present result, for those findings were legally nonprobative in this case. We hold that the first set so firmly establish nonobviousness in this case as to have precluded the conclusion and judgment based on the second, legally insignificant set. In sum, we hold the district court in its findings "was right the first time."

> *tion.* What do these things teach? *What would they teach* a person of ordinary skill in the art?[42]
>
> * * *
>
> I think there is *room for some difference of opinion* here based largely upon those secondary considerations that have *given me such trouble in this case*: failure by others, copying by Dennison, and unquestioned commercial success of the plaintiff. (Emphasis added.)

In addition, the unchallenged record contains these express statements and findings based on undisputed evidence, not clearly erroneous, and further compelling a conclusion of nonobviousness:

(1) "Obviously, no previous patent showed the combination at issue here. I am not persuaded that this invention is similar to any one piece of prior art."

(2) "[O]ther people were going in different ways and did not arrive at the Caveney structure or anything substantially identical to it."

(3) "I am satisfied that in plaintiff's patents we see the best of the art at the times in question. The '146 patent [sic, invention] was better than anything else that then existed and the second two patents [sic, inventions], the '869 and '538 patents, were the best at the time."

(4) "In fact, plaintiff's commercial embodiment of the '538 patent appears to be the leader in the industry."

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[42] Determination of what a patent teaches is fact finding, not interpretation. *Graham*, 383 U.S. at 17, 148 USPQ at 467. A patent either discloses something or it does not. Moreover, speculation on what prior patents "would" teach is unnecessary in this case, where the trial court unequivocally and correctly *found* that they *had not* for many years taught or suggested anything like the claimed inventions to others who were going in other directions.

(5) "[T]he evidence is simply overwhelming that Dennison copied the '538 patent."

(6) "And it was only after the issuance of the '538 patent that [Dennison] finally came up with something that looks very much like the '538 patent [sic, tie]."

(7) "[T]his commercial success, the failure of others, and the copying by Dennison . . . ."

Part X

Nonprobative and Clearly Erroneous Findings

The district court nowhere pointed to anything in the prior art that would have suggested the desirability, and thus the obviousness, of making the distinctive structural elements and combinations Caveney invented and claimed. Nor did the court succeed in the difficult tasks of casting its mind back into that of a person of ordinary skill in the art who had *no preknowledge* of the crucial structural differences that vitalize Caveney's inventions. That person would not have ignored how the devices disclosed in the prior patents worked, or the rigidity of the pawl in Fein, or the releaseability of the pawls in Litwin and the Japanese patents, or the absence of wedging or an abutment wall or anything but air opposing the teeth in Fein and Litwin, or the absence of anything in Emery to suggest a design the court found so much better than what Emery disclosed.

Because the district court's opinion is an admixture of claim mis-interpretation and fact finding without express reference to "differences", it is necessary to glean those portions that may be treated as implied findings on the differences.[43] As above indicated, erroneous claim interpretations led the district court to implied findings that the difference re claim 24 was only multiple teeth in any

[43] There are no "findings" on content of the prior art or on "differences" in the Supplemental Findings and Conclusions.

arrangement, re claim 6 was only a hinge of any type or sort, and re claim 10 was anything that could be called a ledge, but whether a prior patent showed some sort of teeth, or hinge, or ledge, is alone legally insignificant and nonprobative in this case.

Beyond the nonprobative findings, there were these additional "findings", that were clearly erroneous:[44]

The '146 Patent

> "The problem presented by Emery was the so called release problem."

No problem at all is presented in the Emery patent. Like all inventors, Emery presented his invention as flawless. Problems with the Emery tie itself were not seen until years after the patent issued, and, as indicated below, those directly concerned (the distributor and manufacturer of the Emery tie) saw the problem and its solution as entirely distinct from that envisioned by the court and entirely distinct from Caveney's invention.

> "[T]he text of Emery makes abundantly clear that Emery's intention was to achieve wedging against the abutment wall . . . inside the head . . . ."

That the Emery patent *as a whole* disclosed to those skilled in the art a pawl that extends outside the head in use is necessarily confirmed by the unchallengeable documentary evidence of the Orban patent, the Bourne patent, and the latter's prosecution history, which together refute defense counsel's argument that Figure 2 was a "draftsman's error."[45]

Two years after the Emery patent issued, the *distributor* of the Emery patent tie filed application for the Or-

---

[44] It would unduly lengthen this opinion to list every clearly erroneous finding. Because findings of the district court were "clearly erroneous" within the meaning of Rule 52, we "set them aside". *Icicle Seafoods, Inc. v. Worthington*, ___ U.S. ___, ___, 106 S. Ct. 1527, 1530 (1986).

[45] The Orban and Bourne patents are not prior art to Caveney's '146 patent.

ban patent. That application and patent described the problem with the Emery tie as *the cutting off of the chisel edge* (one tooth) when, as was common practice, the protruding strap was cut off. That could happen only if the one tooth were outside the head in use as shown in Figure 2. The distributor's "solution", as Dennison's expert testified, was to raise the end wall of the head.

Four years after the Emery patent issued, the *manufacturer* of the Emery tie further confirmed that the patent as a whole disclosed the pawl outside the head in use. In prosecuting the application filed for the Bourne patent, the manufacturer's attorney told the PTO that the problem with the Emery tie (at even that late date) was "bending of the pawl and tongue [strap] in opposite directions." That could happen only if Emery's pawl was outside the head in use as shown in Figure 2. The manufacturer's "solution" was to keep the pawl inside the head at all times.

Dennison has not mentioned to us the purpose or function of the serrations (teeth) on the curved surface of Emery's pawl. It was able to get its expert witness to say only that one might *force* the Emery pawl *back* into the head if one applied enough load to bend the end wall, but then it might fall through the head.[46]

---

[46] In its Petition for Certiorari, Dennison made much of this court's reference, in footnote 5 of our earlier opinion, to the district court's evaluation of the Emery patent disclosure. Had that footnote controlled our earlier decision, we should have said what is said here, pointing out that the district court's evaluation was contrary to the overwhelming weight of the unchallenged documentary and testimonial evidence, that, though there was evidence to support its evaluation, we were left on the entire evidence with the definite and firm conviction that a mistake had been committed, *United States v. United States Gypsum Co.*, 333 U.S. 364, 395 (1948), and that the evaluation [finding] was therefore "clearly erroneous" under Rule 52(a). Dennison's Petition also quoted a colloquy in which Panduit's counsel said it is possible to read Emery as suggesting edging against the abutment wall, but that a more *reasonable* and *fair* interpretation was one consistent with

(Footnote continued on following page)

> "And in order to achieve the parallel kind of relationship between the pawl and the abutment wall that will be necessary for effective wedging, it follows that the teeth of the pawl must be in a straight line and equidistant from the surface of the abutment wall."

The district court learned that effective wedging required a parallel-straightline-equidistant relationship only from Caveney's engineering testimony, and from the hindsight reconstruction of the prior art by Dennison's witness, not from the Emery patent or from any other prior art patent. Dennison, and others the court found were going in different directions, did not learn this from anything in the prior art and the court cited no prior art basis for its statement. As a finding on the prior art, the statement is clearly erroneous.

The '538 Patent

> "Now the '869 patent had its own problems."
>
> "Now, there are numerous examples in the prior art of hinges and discrete hinges of the kind claimed in the '538 patent. The web in Emery is one example. Litwin has a hinge. Fein, if hinging is a matter of degree, has a hinge, and I refer to Column 2, Line 37 of Fein."
>
> "A contemporaneous development that is pertinent is the Bourne patent that had a discrete hinge."

---

[46] *continued*
the drawing. The colloquy is not evidence, and cannot overcome the documentary evidence that those most familiar with the Emery patent tie (and not at the time engaged in this litigation) filed for patents on their own solutions to Emery's "outside the head" pawl long after the Emery patent issued. There are not, therefore, "two permissible views of the evidence" to which this court would apply the injunction of *Anderson v. City of Bessemer City, N.C.*, 470 U.S. 564, 574 (1985).

> I find nothing in the '538 patent, or at least claim 1 thereof, other than a discrete hinge, that is new over the '869 patent.[47]

This and the court's extended ensuing discussion of the '538 invention in light of the '869 "problems" are simply irrelevant. Neither the '869 patent nor the '869 invention *existed* when the '538 invention was made. The '869 invention was the *last* made of all inventions before the court. It is prior art to nothing in the case.

It is clear on the face of Emery, Litwin, Fein, Bourne, and the '146 patent that no hinge remotely "of the kind claimed in the '538 patent" is shown or suggested in the drawings or specifications of any of those patents. On appeal, Dennison made no effort to support this finding. At trial, it abandoned Bourne in view of the PX 77 showing that Bourne disclosed no hinge. Uncontroverted exhibits PX 68, 14D established that Fein disclosed no hinge, despite its incomprehensible reference to "flexibility-pivotable ratchet buckle." It is undisputed that the Emery and '146 hinges were horizontal and in shear. The finding that the prior art disclosed a hinge of the kind claimed is clearly erroneous.

The '869 Patent

> "The problem addressed by that ['869] patent was insufficient strength in compression."
>
> "The Japanese patent and the Litwin patent, which are prior art to the '869 patent, also showed structures analogous to the '869 ledge in that they absorbed compressive force, force exerted by the strap as it was tightened about the bundle."

---

[47] The '869 invention was not prior art to the invention claimed in the '538 patent, and the '538 invention was not prior art to the invention claimed in the '869 patent. Both inventions were made by the same inventive entity and the applications were copending, having been filed within five days of each other. *In re Land*, 368 F.2d 866, 880, 151 USPQ 621, 634 (CCPA 1966). *See generally* 1 D. Chisum, *Patents*, § 3.08[2] (1986).

> "But I, nonetheless, find the '869 patent to be obvious both on general principles of physics and in light of the Japanese patent and the Litwin patent."

There is not a word in the '869 patent about compression, or about any "problem" of "insufficient strength," in compression or otherwise. Nor is there a word about absorbing compressing force. The court was here repeating back to Caveney his engineering testimony on the advantages achieved by the structural distinctions in the claim. The court then turned to its legally improper and impossible "general principles" standard of patentability. *See* 774 F.2d at 1097-98, 227 USPQ at 347-48.

The Japanese and Litwin patents disclosed structures entirely distinct from and nonsuggestive of the ledge and pawl structure set forth in claim 10. Both disclosed releasable pawls. Neither disclosed a ledge and pawl inside a frame. Whether those patents showed structures "analogous" because something in them "absorbed compressive force" is irrelevant, claim 10 being drawn to an entirely different *structure*, not to "absorbing compressive force." If the court's discussion be considered an implied finding that the content of the Japanese and Litwin patents constitute disclosures capable of rendering obvious the invention set forth in claim 10, such a finding would be clearly erroneous.

CONCLUSION

The portion of the district court's judgment rejecting Dennison's defense under 35 U.S.C. § 102(g) is *affirmed*. The portion of the district court's judgment upholding Dennison's defense under 35 U.S.C. § 103 is *reversed*. The case is *remanded* for further proceedings consistent with this opinion.

AFFIRMED IN PART, REVERSED IN PART, AND REMANDED

APPENDIX

Dennison's Petition for Certiorari and reply ignored our earlier opinion's explication of legal error and need to consider all evidence, presented material for the first time, and repeated misstatements of law Dennison employed in the trial court but avoided before this court. This Appendix sets forth the more egregious of the many obfuscating assertions in the Petition and Reply.

> "Figure 2, on the other hand, appears to show a pawl which is so long that it cannot fit inside the head." (pp. 4, 5).

That assertion was not made at the trial or on appeal. It appears for the *first time* in the petition.

> "And perhaps of greatest significance is the fact that the trial court had before it—although not mentioned in its oral opinion—drawings of the commercial Emery ties and samples of the commercial ties." (p. 7).

"Significance" and Rule 52(a) cannot be applied to what was "not mentioned." *No prior art* "commercial Emery ties" were in evidence. DX 24 (unopened bag of ties surfacing 14 years after Caveney's invention) was handed up at trial and on appeal, but never referred to as prior art. Panduit's brief said, without refutation, that defense counsel *knew* those ties were not prior art.

> "The deposition of the U.S. distributor of these ties confirms that the trial court's interpretation of the Emery patent was correct, but the Federal Circuit opinion simply fails to acknowledge existence of this other evidence." (p. 7).

The deposition was handed to the trial court three minutes before it rendered its oral opinion. It was *not acknowledged* and *not included in the record* by the trial court. The pages of the deposition in the appendix on appeal do not contain the asserted confirmation.

> "no invention. . . ." (p. 7); "an invention . . . ." (p. 16); "was invention . . . ." (p. 16); "an invention." (p. 18); "an invention." (p. 20).

See 774 F.2d at 1098, 227 USPQ at 348; *Graham*, 383 U.S. at 14, 148 USPQ at 465 ("Congress has emphasized 'nonobviousness' as the operative test of the section, rather than the less definite 'invention' language of *Hotchkiss* . . . ."); Rich, *supra* note 13, at 1:508.

> "The prior art, as best represented by the Orban patent . . . ." (p. 7).

The district court applied Orban *only* to the dependent portion of claim 6 and *expressly* refused to find Orban relevant to anything else.

> "The reference in the '538 drawing to a non-collapsible hinge is incorrect . . . . Panduit argued in its brief before the Federal Circuit that a 'different embodiment' of its cable ties had the collapsible hinge and the Federal Circuit not only accepted that erroneous statement but then compounded its error by publicly indicting Dennison's counsel for correcting Panduit." (p. 14, n.3).

The '538 patent repeatedly and only describes the hinge in compression as "rigid non-collapsible" and the reference in the drawing is therefore *not* "incorrect". Dennison's counsel recognized before the trial court that a collapsible hinge was necessarily a "different embodiment" rejected as "new matter" by the Examiner and Board of Appeals. Dennison is not employing a collapsible hinge and arguing noninfringement.

> " 'The Obviousness of the Differences' " (p. 17); " 'nonobvious differences.' " (p. 19); " 'The Obviousness of the Differences' " (p. 8 of Reply).

In *Berkemer v. McCarty*, 468 U.S. 420, 437 (1984), the Court refused to "accord talismanic power" to a phrase in a prior opinion. To take literally phrases about obviousness of differences themselves would be to place the Court in conflict with the clear language of the statute, § 103, which requires that, *after* the differences are found, the subject matter of the claimed invention be judged *as a whole*. *See Aro Mfg. Co., Inc. v. Convertible Top Replacement Co., Inc.*, 365 U.S 336, 339, 128 USPQ 354,

356-57 (1961) ("the claims made in the patent are the sole measure of the grant."). The differences may render the invention as a whole, as here, so distinct as to produce results of which prior devices are incapable. *See Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 5146, 221 USPQ 1, 7 (Fed. Cir. 1984); *Jones v. Hardy*, 727 F.2d 1524, 1528, 220 USPQ 1021, 1024 (Fed. Cir. 1984); *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 220 USPQ 97 (Fed. Cir. 1983).

> "The Federal Circuit's opinion states that the trial court treated the '869 patent as prior art when dealing with the '538 patent. This was another unfortunate departure from the record by the Federal Circuit since explicit contrary statements were made by the trial court. . . . The trial court's practice does not warrant, we believe, the Federal Circuit's refusal to even acknowledge that supplemental fact findings were made, let alone to suggest that the trial court made misstatements of fact when adopting these supplemental findings. We submit that the Federal Circuit must treat the trial court's supplemental findings as part of the record." (p. 17, n.5).

Aware of the trial court's legally improper concentration on the '869 patent as though it were prior art, Dennison persuaded the court, a month after its opinion, to list other prior art as "considered" (the list is not a "finding"), carefully excising from the list the '869 patent. This court's earlier opinion *quoted* the trial court's statement, 774 F.2d at 1089, 227 USPQ at 341, that it found "nothing in the '538 patent . . . that is new over the '869 patent." The trial court also said, "the discrete hinge in the '538 patent is not a patentable difference over the '869 patent." The trial court's 14-paragraph discussion leading to the first foregoing quote is entirely based on its view that "the '869 patent had its own problems," that the principal "problem" was insufficient flexibility, and that the cure, "the way the '538 patent does it," was "the so-called discrete hinge." The trial court made *no* "explicit contrary statements" and nowhere said it did *not* rely on the '869 patent as prior art. There was thus no "unfor-

tunate departure from the record," no reason to "acknowledge that supplemental fact findings were made," no refusal to "treat the trial court's supplemental findings as part of the record," and no suggestion "that the trial court made misstatements of fact when adopting these supplemental findings."

> "It is apparent that Panduit, Eberhardt, and Bourne all responded at about the same time to the new specifications facing the industry." (p. 20).

"New specifications" were not listed as prior art under § 282 and were not mentioned by the district court. The "Mil Specs" in the record do not require a pawl of any design, and Dennison's entirely different "ladder" ties fully meet those specifications. Dennison's trial brief said Eberhardt sought to avoid pivoting a pawl at its base. Its brief on appeal said Eberhardt's pawl was "pivotally mounted." The trial court said, "It sounds like they [Eberhardt] are claiming the exact opposite kind of virtue from what is claimed in plaintiff's patent." Dennison copied the *claimed* inventions in preference to copying the entirely different "contemporaneous developments" it now praises.

> "Dennison faces an injunction and potentially heavy damages if it is ultimately excluded from using such elementary features in its cable ties." (p. 21).

Dennison should know that there is *no possibility in law* for such exclusion. *See* 774 F.2d at 1093, 227 USPQ 344, and Part VI, *supra*. Dennison knows it is and always will be free to copy the cable ties in the expired prior art patents to Emery, Fein, Litwin, Orban, Eberhardt, Bourne, and the Japanese patent, all of which it *praises* as having disclosed all such "elementary features." All Dennison faces is damages for having *copied* Caveney's *claimed* inventions and an injunction against further use of *those* inventions. Even so, Dennison will be free to resume its copying of Caveney's inventions in 1987, 1989, and 1993, respectively.

> "comparison of the Emery cable tie with claim 26 of the '146 patent, this claim being one of the 28 claims asserted by Panduit:" (p. 2 of Reply.).

Claim 26 was not discussed at trial and was *never presented to this court.*

> "Dennison's statements to this Court and to the Federal Circuit were 100% accurate . . . more significantly, this petition should be reviewed because of the critical errors made by the Federal Circuit, and not on the basis of such secondary disputes." (p. 10 of Reply.).

Dennison's statements were not accurate. *See* this Appendix and 774 F.2d at 1101-02, 227 USPQ at 350-51. Obfuscation is not merely a "secondary dispute."

SUPREME COURT OF THE UNITED STATES

DENNISON MANUFACTURING COMPANY,	)	
Appellant,	)	Appeal No. 85-1150
v.	)	
PANDUIT CORP.,	)	
Appellee.	)	

DECIDED: APRIL 21, 1986

PER CURIAM

Respondent holds three patents for plastic cable ties, products that are commercially successful. Petitioner copied respondent's products, was sued for patent infringement in the Northern District of Illinois, and defended on the ground that the patents were invalid for obviousness. The trial judge examined the prior art, identified the differences between the prior art and each of the three patents at issue, and concluded that all of the improvements made by the three patents over the prior art would have been obvious to one skilled in that art. In the course of arriving at this conclusion, the trial judge recognized that the presumption of patent validity must be overcome by clear and convincing evidence, that the patents' commercial success and the failure of competitors to develop equally successful inventions were important factors weighing in favor of the validity of the patents, and that in addressing the question of obviousness a judge must not pick and choose isolated elements from the prior art and combine them so as to yield the invention in question if such a combination would not have been obvious

at the time of the invention. Nonetheless, the judge found that respondent's patents were invalid for obviousness.

The Court of Appeals for the Federal Circuit reversed. 774 F.2d 1082 (1985). The court disagreed with the District Court's assessment of the prior art, ruled that the references cited by the District Court did not teach the innovations introduced by respondent, and referred to other errors made by the District Court.

Petitioner contends that the Federal Circuit ignored Federal Rule of Civil Procedure 52(a) in substituting its view of factual issues for that of the District Court. In particular, petitioner complains of the rejection of the District Court's determination of what the prior art revealed and its findings that the differences identified between respondent's patents and the prior art were obvious.

Petitioner's claims are not insubstantial. As this Court observed in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 693-94, 15 L.Ed.2d 545 (1966):

> "While the ultimate question of patent validity is one of law, . . . the § 103 condition [that is, nonobviousness] . . . lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unresolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy."

This description of the obviousness inquiry makes it clear that whether or not the ultimate question of obviousness is a question of fact subject to Rule 52(a), the subsidiary

determinations of the District Court, at the least, ought to be subject to the Rule.

The Federal Circuit, however, did not mention Rule 52(a), did not explicitly apply the clearly-erroneous standard to any of the District Court's findings on obviousness and did not explain why, if it was of that view, Rule 52(a) had no applicability to this issue. We therefore lack an adequate explanation of the basis for the Court of Appeals' judgment: most importantly, we lack the benefit of the Federal Circuit's informed opinion on the complex issue of the degree to which the obviousness determination is one of fact. In the absence of an opinion clearly setting forth the views of the Court of Appeals on these matters, we are not prepared to give plenary consideration to petitioner's claim that the decision below cannot be squared with Rule 52(a). Instead, we grant the petition for certiorari, vacate the judgment, and remand the case to the Court of Appeals for further consideration in light of Rule 52(a).

IT IS SO ORDERED.

Justice MARSHALL dissents from this summary disposition, which has been ordered without affording the parties prior notice or an opportunity to file briefs on the merits. *See Cuyahoga Valley Railway Co. v. United Transportation Union*, ____ U.S. ____, ____, 106 S.Ct. 286, 288, 88 L.Ed.2d 2 (MARSHALL, J., dissenting); *Maggio v. Fulford*, 462 U.S. 111, 120-121, 103 S.Ct. 2261, 2266, 76 L.Ed.2d 794 (1983) (MARSHALL, J., dissenting).

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PANDUIT CORPORATION,
Appellant,
v.
DENNISON MANUFACTURING CO.,
Appellee.

Appeal No. 85-1144

DECIDED: OCTOBER 2, 1985

In patent infringement suit, the United States District Court for the Northern District of Illinois, Grady, J., held invalid various claims of the patents in question, relating to one-piece cable ties, and appeal was taken. The Court of Appeals for the Federal Circuit, Markey, Chief Judge, held that: (1) the claims in question were not invalid for obviousness; (2) there was no double patenting; and (3) the first of the patents at issue was not anticipated.

Reversed as to validity, and remanded.

* * *

Charles F. Pigott, Jr., Pigott, Gerstman & Gilhooly, Ltd., Chicago, Ill., argued for appellant.

Charles R. Wentzel, Panduit Corp., Tinley Park, Ill., of counsel.

James P. Ryther, McDougall, Hersh & Scott, Chicago, Ill., argued for appellee. With him on brief were Thomas C. Elliott, Jr., McDougall, Hersh & Scott, Chicago, Ill., and Thomas F. Curry, Dennison Mfg. Co., Waltham, Mass., of counsel.

Before MARKEY, *Chief Judge*, COWEN, *Senior Circuit Judge*, and NEWMAN, *Circuit Judge*.

MARKEY, *Chief Judge*.

Appeal from a judgment of the United States District Court for the Northern District of Illinois, Eastern Division, holding claims 1-4, 7, 10, 12, 14-22 and 24-27 of United States Patent No. 3,537,146 ('146 patent), claims 1, 10 and 12 of United States Patent No. 3,660,869 ('869 patent), and claims 1, 2, 5, 6, 11, 17, and 21 of United States Patent No. 3,965,538 ('538 patent) invalid on the ground of obviousness, and the same claims of the '538 patent invalid on the ground of double patenting. We reverse.

Background

(1) The Art

One-piece cable ties are used to bind a bundle of cables or insulated wires. Looped around the bundle, a strap has one end passed through an opening in a frame at the other end. Teeth on the strap engage with a locking device at the frame. The strap and device operate to permit tensioning of the strap end to prevent its loosening or withdrawal.

Prior art cable ties with rigid locking devices had a desired high strap withdrawal force, but an undesired high strap insertion force. Conversely, those with flexible locking devices had an undesired low withdrawal force and a desired low insertion force.

(2) The Real World Story

As stated in *Rosemount, Inc. v. Beckman Instrument, Inc.*, 727 F.2d 1540, 1544, 221 USPQ 1, 5 (Fed. Cir. 1984), many patent suits "arise out of the affairs of people, real people facing real problems." That is true of the present suit.

Jack E. Caveney founded Panduit in the basement of his home in 1955, making first a plastic wiring duct. In 1958, he developed and began selling a two-piece plastic

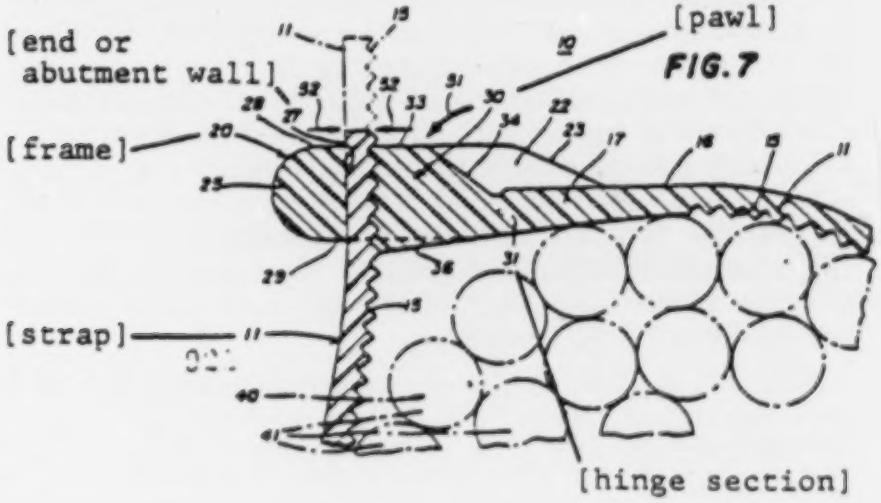
cable tie. In 1961, he began a research program to develop a one-piece plastic cable tie. That program lasted nine years and cost several million dollars. The end result of that program is the tie of the '538 patent, which includes the features of all three patents in suit. Primary among its advantages are the minimal force required to deflect the locking member when the strap is inserted through the frame and the high force required to withdraw the strap from the frame. Jack Caveney was the first to envision and achieve a cable tie having a higher ratio of low strap insertion force and high strap withdrawal force than anyone else had ever achieved or thought possible. Panduit's commercial embodiment of the patents in suit achieves an insertion force of one-half pound and a withdrawal force of 80 pounds.

First sold in 1970, the tie of the '538 patent had by 1984 achieved annual sales of $50 million, and was accounting for half of Panduit's total profits and 80 percent of its cable tie sales.

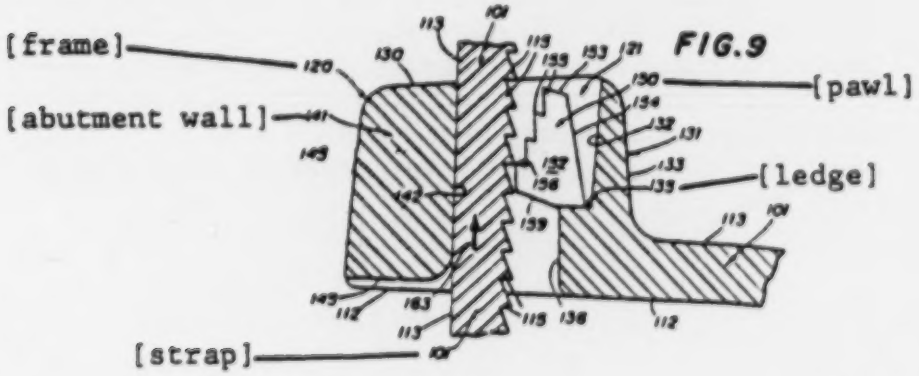
Beginning in 1968, Dennison Manufacturing Corporation (Dennison) put its staff of engineers and designers to work on a one-piece cable tie development program. It carried that program on at considerable expense for ten years, developing many ties and patenting some. None was successful. With the '869 patent before it, Dennison copied the tie claimed in that patent in 1976. When the '538 patent issued in 1976, Dennison thereupon copied the tie claimed in that patent. Having failed to succeed for over ten years with ties of its own design, Dennison achieved such success with its copy of the '538 tie as to make Dennison the second or third largest supplier of one-piece cable ties.

(3) The Patents In Suit[1]

The '146 patent issued November 3, 1970 on an application filed August 6, 1968. Figure 7 is representative:



The '869 patent issued May 9, 1972 on an application filed May 1, 1969. Figure 9 is representative:



[1] Representative claims appear in the appendix to this opinion.

The '538 patent issued June 29, 1976 on an application filed May 5, 1969. Figure 9 is representative:

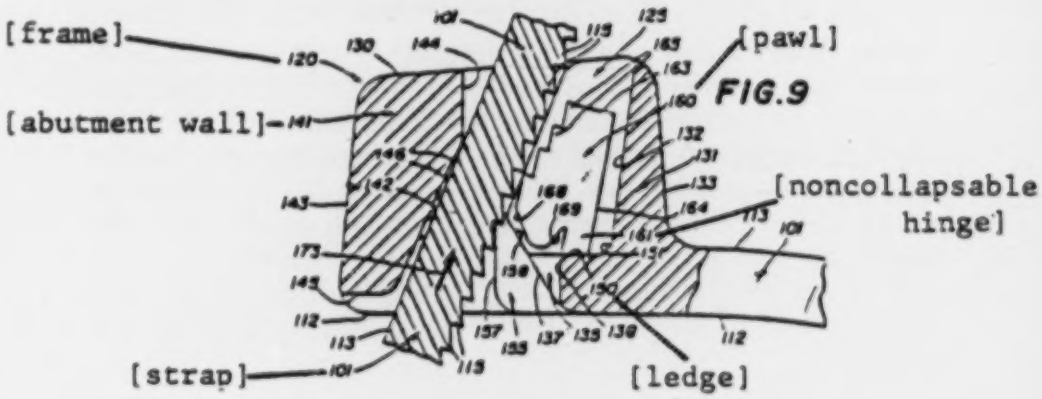


FIG. 9

(4) Infringement

Dennison admits that the results of its research and development program, its Merser 8 and Merser 9 ties, "are covered by the representative claims of the patents-in-suit." Dennison's Merser 8 tie is admittedly covered by the asserted claims of the '146 and '869 patents. Dennison's Merser 9A tie is admittedly covered by the asserted claims of all three patents in suit. Dennison's defense was, accordingly, limited to its asserted invalidity of the patents in suit.

(5) Proceedings Before The District Court

On December 14, 1978, Panduit sued Dennison, alleging infringement of certain claims of its '146 and '869 patents. Dennison answered on February 16, 1979, asserting invalidity of those patents. In 1981, Panduit amended its complaint, alleging infringement of certain claims of the '538 patent. Dennison's answer asserted invalidity of that patent.

After years of skirmish, trial was held on 13 dates between October 9 and November 8, 1984. A judgment was entered on December 4, 1984, following the court's ruling from the bench in favor of Dennison.

(6) The District Court's Decision

(a) § 103

(I) The '146 Patent

The district court said the closest prior art reference was United States Patent No. 3,127,648 to Emery (Emery). Panduit had cited Emery to the Examiner, who considered it during prosecution. As evaluated by the district court, however, Emery "had a problem," i.e., "that the strap of the cable tie protruded from the head[2] when the cable tie was in tension," and because "there was only one tooth on the Emery tie . . . any pulling of the protruding end of the strap could easily disengage that one tooth."

[1, 2] When Panduit at trial said the claimed subject matter was patentably distinct in view of plural teeth on the pawl, sequential engagement of the pawl teeth with those on the strap, and wedging of those engaged members against the abutting wall, the district court responded that what it called Panduit's "new elements" were "simply a description of one element, not three," saying: "it seems to me that one element has been broken down into three elements, and in so doing [Panduit] is able to argue that it has more patentable differences over Emery than I find to be the case."[3]

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[2] The district court opinion refers to "the head" of the strap. The patents in suit speak of an "integral frame". The terms are here interchangeable.

[3] What the court called "elements" were *limitations* in the claims. The court's merger of those separate limitations into what is called "one element" was in this case improper because the limitations give *meaning* to the various elements of the claims in suit. *Lindemann Maschinenfabrick GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1459, 221 USPQ 481, 486 (Fed. Cir. 1984).

Moreover, the number of elements is irrelevant, the sole question being whether the *claimed* subject matter as a whole would have been obvious. 35 U.S.C. § 103. *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1579-80, 219 USPQ 8, 12 (Fed. Cir. 1983).

In response to Panduit's argument that Emery did not wedge the strap against the abutment wall, the district court said that "the text of the Emery patent makes abundantly clear that Emery's intention was to achieve wedging against the abutment wall," and that such wedging "can only be accomplished if [it] is inside the head, because that is where the abutting wall is."[4]

[3] When Panduit pointed out that Emery's drawing clearly shows engagement of the pawl and strap outside the frame, the district court said:

> Now, how do we account for the drawing? I can't account for that drawing . . . It's an aberration, it's an anomaly. And as I indicated a little earlier this afternoon, it is difficult to believe that someone whose only task was to make two drawings, could make a mistake on one of them when his business is making patent drawings. And yet, I adopt defendant's suggestion that what is represented by Figure 2 of Emery is a draftsman's error.[5]

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[4] Nothing in the text of Emery suggests an intention to wedge the strap against the abutment wall in the manner disclosed in the '146 patent.

[5] Emery's drawing shows the pawl outside the frame and pressing the strap against the upper edge of the frame. Emery's sole independent claim says the pawl is "displaceable from within said frame" and returns "into said frame upon removal of said tongue end from said frame." Though the text says the pawl is "adapted to return to said normal position upon movement of said tongue portion in the reverse direction," the drawing, the claim, and the specification as a whole indicate that Emery's pawl returns *toward* its normal position upon reverse movement of the strap (tongue), but does not enter the frame until the strap is removed. The drawing referred to by the district court is the only drawing (of two) that shows the strap in use, and the representation of the pawl outside the head is a major segment of the drawing, emphasized by cross-hatching. No basis exists in the record for assuming that the inventor, the patent attorney, the draftsman, and the examiner would all have failed to notice the glaring aberration seen by the district court, if aberration there were.

The district court concluded that the solution to Emery's "release problem" was "to add more teeth and put those teeth exactly where the intelligent reader of Emery would have known they should be, namely on the pawl, inside the head, gripping the strap against the abutment wall." The district court concluded that claim 24 was "necessarily implied in a decision to use multiple teeth," and that use of multiple teeth "was, nonetheless, obvious in light of the problem presented in Emery." To support that determination, the district court looked to two references cited during prosecution, each of which disclosed multiple teeth, concluding: "I don't even think it is necessary for anybody to teach [multiple teeth] in view of the fact that it was an obvious solution."

(II) The '869 Patent

The district court said, "the problem addressed by [the '869 patent] was insufficient strength of compression." The court attributed that "problem" to "the hinge"[6] being positioned "essentially perpendicular to the axis of the strap." The district court said "[t]he solution devised by Caveney was to change the orientation of the pawl to a more or less vertical position, so that it would be essentially parallel to the axis of the tensioned strap, and then to place a ledge under the pawl to absorb the compressive force."

The district court found that "to increase the compressive strength of the cable tie, and specifically the pawl and hinge of the cable tie, you would set the pawl on a ledge." It further found that "it is obvious that a ledge should be an integral part of the head of the tie," and that "extending the ledge from side wall to side wall is an obvious way of accomplishing that."

The district court also looked to three references: United States Patent No. 3,484,905 to Eberhardt (Eber-

[6] A "hinge" is nowhere disclosed or discussed in the drawings, or claims, or specification of the '869 patent. A horizontal neck is shown in the '146 patent.

hardt), filed over three months after the '869 patent application (as a "contemporaneous development"); United States Patent No. 3,214,808 to Litwin (Litwin); and Japanese Utility Model Publication No. 27023/1964 (Japanese patent), the first two of which had been cited during prosecution. The court said those references "showed structures analogous to the '869 ledge in that they absorbed compressive force."

The court concluded that "the result achieved by introducing a ledge in the '869 patent was altogether expected," saying that "where the result of a rather ordinary step is exactly what you would expect . . . that is an argument for obviousness," and that the claimed invention of the '869 patent would "be obvious[7] both on general principles of physics and in light of the Japanese patent and Litwin patent."

(III) The '538 Patent

The district court said the "principal problem" addressed in the '538 patent was that the pawl of the '869 patent was not sufficiently flexible, and that its teeth tended to break off when tensioned in a "file like action". This it termed the "rigidity" problem, saying:

> Now, if the problem is rigidity, the opposite of rigidity is flexibility. So it seems to me that the person of ordinary skill in the art, when recognizing the problem—and that, incidentally, would not have been difficult—there is testimony in the record that the problem was obvious, the problem itself was obvious—the teeth were being filed off—the person of or-

[7] The district court, and counsel for both parties on appeal, use the phrase "would *be* obvious". The invention is not being made or to be made in the future. The phrase moves the mind to the present and future. There is no reason to avoid, and every reason to insist upon, use of the *statutory* phrase "would have been", 35 U.S.C. § 103, which tends to remind the decisionmaker of the need to cast the mind back to "the time the invention was made", 35 U.S.C. § 103.

> dinary skill in the the art would necessarily think in terms of making the pawl more flexible than it was. The objective would be to achieve some way of enabling the pawl to get out of the way of the strap as it moved past so that the teeth would not be filed off.

The district court said the '538 patent avoided the rigidity problem by using what it called a "discrete hinge," which it in turn called the "essence of the '538 patent." That "solution" was necessary, it believed, because only a discrete hinge could achieve flexibility while not interfering with multiple engagement of the teeth.

The district court pointed to what it termed "hinges and discrete hinges" in the Emery, Litwin, and Fein patents, and to United States Patent No. 3,486,201 to Bourne (filed three months after the '538 patent application) (as a "contemporaneous development").[8]

The district court also said the '146 patent showed a "discrete hinge" and thus was "perhaps the most relevant prior art."[9]

The district court said Panduit claimed the discrete hinge in the '538 patent in language that "described a

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[8] All of the cited patents were before the examiner. None discloses a hinge as claimed in the '538 patent. Fein discloses a rigid pawl and no hinge. As shown in unchallenged exhibit PX77, Bourne discloses no hinge of any kind.

[9] In so finding, the court ignored the unrebutted testimony that the neck shown in the '146 patent was *horizontal*, would be *weakened* if made more discrete, and would be in shear when subjected to withdrawal force. It also ignored the increase in withdrawal resistance from 25 pounds (the '146 patent) to 80 pounds (the '538 patent).

If the '146 invention rendered obvious those claimed in the '538 patent, moreover, it is at least surprising that Panduit would have continued its research program for seven more years and spent millions after reducing the '146 invention to practice in 1961.

number of necessary characteristics of the same element as though they were separate elements."[10]

The primary prior art basis for the court's holding obvious the claimed inventions of the '538 patent was that the '538 patent offered "nothing . . . other than a discrete hinge, that is new over the '869 patent."[11]

(IV) Objective Evidence

Respecting the objective evidence (the so-called "secondary considerations"), the district court said: "Mr. Cavaney and Mr. Moody and Panduit have designed and perfected an excellent and, indeed, preeminent commercial product. And the fact that they have done so contributed greatly to the difficulty of this case. It is not easy to find something obvious in the fact of those facts. And I do so with great reluctance and great resistance."

(V) Concluding Remarks Respecting § 103

Summarizing, the district court described Panduit's approach as "flawed by two errors".

First, it said Panduit's claims split "what are essentially the same element into a number of parts."[12] and presented "confusing claims to the Patent Office over a long

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[10] It is, however, precisely those "characteristics" set forth as limitations in the claims, that distinguish and give meaning to the claimed hinge, that make the claimed hinge effective with the other elements of the claimed combination, that help make the commercial embodiment of the claimed invention the most successful product in its field, and that led Dennison to copy it. Respecting the district court's reference to "same element", see n. 3, *supra*.

[11] The '869 patent, however, was *not* prior art to the inventions claimed in the '538 patent. The inventions claimed in the '869 patent were conceived and reduced to practice *after* those claimed in the '538 patent. That the application for the latter was filed 4 days after that for the former, and resulted in a patent issued 4 years after the former, appears to have caused the court's mistake of treating the '869 patent as prior art.

[12] See n.3, *supra*.

series of patent applications for various cable ties." accompanied by "inconsistent and self-contradictory arguments."[13]

Second, it said that Panduit overly relied on the absence from the prior art of anything even close to the claimed inventions, saying Panduit gave "insufficient attention to what is taught by general engineering principles and general principles of physics and, indeed, the common experience of mankind."[14]

(b) Section 102(g)

Respecting Dennison's allegation of invalidity of the '146 patent under 35 U.S.C. § 102(g), the district court determined that, in reducing to practice the subject matter of the '146 patent in 1961 and filing an application in 1968, Panduit had not "forfeited any of its patents," that Dennison failed to show "prejudice, reliance, or some change in position," and that "mere delay [in filing] without more does not result in forfeiture."

(c) Double Patenting

In its statement, the district court upheld this defense in two sentences:

> Turning to the question of double patenting, I find that there is double patenting. The reason for this is that the discrete hinge in the '538 patent is not a patentable difference over the '869 patent.

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[13] Those "confusing claims" and "inconsistent and self-contradictory" arguments were not further described or identified by the district court, and we cannot find them in the prosecution histories of the patents in suit. Claim multiplicity does not itself reflect either claim confusion or inconsistency or contradiction.

[14] The district court said testimony of Caveney and other Panduit witnesses was entirely credible, but that credibility of witnesses played a very small part in its obviousness determination.

(d) Copying

The district court found that Dennison copied the claimed inventions of the Panduit patents, saying "[i]f there were any doubts on that, it would have been dispelled by Dennison's failure to bring to court the people who could have denied that, if it were possible to deny it." Instead, it said, Dennison's witnesses had "secondhand and relatively remote connection with the accused devices," and their testimony was "of very little assistance."

(e) Attorney Fees

The court denied Dennison's demand for attorney fees, saying "this is not an exceptional case within the meaning of the statute." It viewed Panduit's suit neither as frivolous nor brought in bad faith, and noted that "there is room for some difference of opinion here based largely upon those secondary considerations that have given me such trouble in the case: failure by others, copying by Dennison, and unquestioned commercial success of the plaintiff."

Issues Presented

(I) Whether the district court erred in holding the claims in suit invalid for obviousness.

(II) Whether the district court erred in holding the claims of '538 patent invalid for double patenting.

(III) Whether the district court erred in refusing to hold the claims of the '146 patent invalid under 35 U.S.C. § 102(g).

OPINION

(I) Obviousness

(a) The Landscape

The present record reflects the insidious and powerful phenomenon known in patent law as the use of hindsight, for in this case a most careful and conscientious judge,

after voicing the caveat against it, was nonetheless victimized by that phenomenon.

That counsel may succeed in leading a court to disregard the statutory requirement for consideration of the claimed invention "as a whole", to look for its "essence" in a single feature, and to pick and choose features found somewhere in the prior art, though the court had recognized the impropriety of that decisional approach, is a second phenomenon forming part of the landscape of the present case.

That a court may misconstrue its role as requiring it to decide whether *it* considers an invention patentable, in place of the statutory requirement that it decide whether the patent's challenger has carried its burden of proving by clear and convincing evidence the facts compelling a conclusion of patent invalidity, *SSIH Equipment, S.A. v. U.S. Intern. Trade Comm'n*, 718 F.2d 365, 375, 218 USPQ 678, 687 (Fed. Cir. 1983), is a third phenomenon in the landscape of this case.

That a court may be led to concentrate on lawyers' games played with the patent in suit and those in the prior art, while allowing an obscuration of the real world story that forms a major part of the landscape of this case, is a fourth phenomenon here present.

At the outset of its statement from the bench, the district court reflected a clear instinct for the proper parameters of decisionmaking under 35 U.S.C. § 103:

> It is not appropriate for the Court to engage in hindsight. Furthermore, it is not appropriate for the Court to pick and choose isolated elements from various prior art references and combine them so as to yield the invention in question when such combining would not have been an obvious thing to do at the time in question.
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> * * * *
>
> I am satisfied that in plaintiff's patents we see the best of the art at the times in question. The '146 patent was better than anything else that then existed

> and the second two patents, the '869 and '538 patents, were that best at the *time*. In fact, [Panduit's] commercial embodiment of the '538 patent appears to be the leader in the industry. As I have remarked at various times during the trial, the evidence is simply overwhelming that Dennison copied the '538 patent.
>
> Now, this commercial success, the failure of others and the copying by Dennison argue strongly in favor of non-obviousness. In addition, of course, [Panduit] has the benefit of the rule that the presumption of validity of the patent can be overcome only by clear and convincing evidence.
>
> It is with these caveats firmly in mind that I will now undertake an analysis of each patent.

There was an eleven day recess in the closing arguments. Before the recess, the district court had said, "obviously no previous patent showed the combination at issue here. I am not persuaded that this invention is similar to any one piece of prior art," and "other people were going in different ways and did not arrive at the Caveney structure or anything substantially identical to it."

The present case establishes that, even on a journey to decision so well begun, a busy court may lose its way. Speculation on just which fork in the road led to error is fruitless. There were, moreover, numerous forks and numerous errors.[15]

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[15] At the end of its statement from the bench, the district court exhibited uncertainty respecting its obviousness conclusion, along with substantial prescience respecting the outcome of this appeal:

> I have been going back and forth on this thing in my mind throughout the trial. It gives me great comfort to know that I am just the first stop on this trip. Everything I have said here can be analyzed just as well by the Court of Appeals for the Federal Circuit.
>
> All the documents are here, the testimony is there for them to read, and if they come to a different conclusion than I, so be it.

(b) The Errors

En route to its decision on obviousness, the district court was led to these errors:

(1) It employed the benefit of hindsight.

(2) It misinterpreted the claimed inventions.

(3) It misevaluated the prior art.

(4) It misconstrued its role.

(5) It applied an improper and impossible standard of obviousness.

(6) It gave too little weight to the objective evidence of non-obviousness and the real world story reflected in that evidence.

(1) Hindsight

The record compels the conclusion that the district court, having heard many days of testimony from the inventor Caveney, was unable to cast the mind back to the "time the invention was made." 35 U.S.C. § 103. The court did not, as the statute requires, view the prior art from the perspective of one skilled in the art and uninformed by that testimony. Caveney described in detail the shortcomings of prior art cable ties and the superiority of cable ties constructed in accord with the claims in suit. In deciding the obviousness question, the district court looked to knowledge taught by the inventor Caveney, in his patents and in his testimony, and then used that knowledge against its teacher.

[4] The test is whether the subject matter of the claimed inventions would have been obvious to one skilled in the art at the time the inventions were made, *not* what would be obvious to a judge after reading the patents in suit and hearing the testimony. In the present case, for example, there is no way that one skilled in the art in 1961 and 1968 (necessarily unaided by knowledge of the patents in suit and Caveney's testimony) would find in the prior art either a teaching or a suggestion of the claimed inventions.

Though hindsight was applied to all of the claims and references, a few examples are illustrative. There is no way one skilled in the art would have focused on an incomprehensible phrase in Fein, and ignored his disclosure of a rigid pawl; or would have focused on multiple teeth in Fein and Litwin, while ignoring how those reference structures function and the total absence of an abutment wall; or would have known that the teeth must be "in a straight line and equidistant from the surface of the abutment wall"; or would have learned from the Japanese and Litwin patents, which disclose manually releasable pawls, how to design the non-releasable pawls of the claimed inventions. *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550, 220 USPQ 303, 311 (Fed. Cir. 1983). Most importantly, nothing whatever in the prior art would have suggested to one skilled in the art how to produce a cable tie with a one-half pound insertion force and an 80 pound withdrawal force.[16]

The use of hindsight was the more egregious here, where, as discussed below, the court applied a subjective view based on "engineering principles and general principles of physics" and "the common experience of mankind" in the face of a record establishing that those "principles" and that "experience" did not for years suggest the claimed inventions to numerous earlier workers skilled in the art, including Dennison's engineers.

This court and one of its predecessors have cautioned against the use of hindsight:

> It is difficult but necessary that the decisionmaker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art

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[16] That one *could* invent such a cable tie is unquestioned. Caveney *did*. The question, however, is never whether an invention *could* be made, but whether there is anything in the prior art as a whole that would have rendered its making obvious to one skilled in the art when the invention was made.

> who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art.

W.L Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d at 1553, 220 USPQ at 313.

> It is impermissible to first ascertain factually what appellants *did* and then view the prior art in such a manner as to select from the random facts of that art only those which may be modified and then utilized to reconstruct appellants' invention from such prior art.

In re Shuman, 361 F.2d 1008, 1012, 150 USPQ 54, 57 (CCPA 1966).

In *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir. 1983), this court noted the conflict with the statute, 35 U.S.C. § 103, when the test applied is whether the claimed invention would have been obvious, not to one skilled in the art when the invention was made, but "to a judge or other layman after learning all about the invention."[17]

(2) Misinterpretation of the Claimed Inventions

[5] The statute requires that the subject matter of the claimed inventions be considered "as a whole." 35 U.S.C. § 103. In the present case, the district court interpreted the claims of the '146 patent as though they were drawn to "multiple teeth", those of the '896 patent as though they were drawn to a "ledge", and those of the '538 pat-

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[17] At the end of its statement from the bench, the court said, "[i]t is primarily, it seems to me, a matter of applying your experience to the undisputed facts." If, as its context indicates, the "experience" intended was that of the judge, the approach is error: (1) so far as the record discloses, the court had *no* experience in the art of designing cable ties; (2) the "facts" of every reference were disputed; (3) it is a matter of determining the facts on all the evidence and then applying the law, not the judge's "experience," to those facts.

ent as though they were drawn to a "hinge". That was error.[18]

The court was apparently led into the instant error by defense counsel's contention that each patent should be evaluated for what counsel called its "essence." In so arguing, counsel misled the court in respect of the law when he told the court that if it upheld the validity of the patents it would be telling the entire industry:

> "You can't have more than one parallel tooth." (re the '146 patent);
>
> "You can't mount a pawl on a ledge." (re the '869 patent);
>
> "You can't use a neck in there when you support your pawl." (re the '538 patent).

[6, 7] Counsel knew, or should have known, of the falsity of the foregoing statements. Those statements misstate the law of validity and the law of infringement. As above indicated, validity is determined on the basis of the claimed subject matter as a whole, 35 U.S.C. § 103, not in respect of a single element. Similarly, infringement of a claimed combination requires the presence of an accused structure of each claimed element, or its equivalent. Upholding of the patents in suit does not, therefore, preclude any worker in the art from employing multiple teeth, ledges, and hinges in whatever combinations the

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[18] The error is compounded here: (1) "multiple teeth" had nothing to do with allowance of the '146 patent, the Examiner having cited the two references pointed to by the district court as disclosing multiple teeth and Emery itself disclosing multiple serrations; (2) the "ledge" and "hinge" were not naked in the claims, but were set forth with particular characteristics and relationships to other elements in the combinations claimed; (3) the district court here lost sight of the fundamental rule that "it is the claims that measure the invention." *Aro Mfg. Co., Inc. v. Convertible Top Replacement Co., Inc.*, 365 U.S. 336, 339, 81 S.Ct. 599, 600, 5 L.Ed.2d 592, 128 USPQ 354, 356-57 (1961); *Bandag, Inc. v. Al Bolser's Tire Stores, Inc.*, 750 F.2d 903, 922, 223 USPQ 982, 996 (Fed. Cir. 1984); *Jones v. Hardy*, 727 F.2d 1524, 1528, 220 USPQ 1021, 1022 (Fed. Cir. 1984).

worker may desire, so long as those combinations are distinct from those claimed in the present patents.

This court has cautioned against the claim dissection that occurred here:

> Though it is proper to note the difference in a claimed invention from the prior art . . . it is improper . . . to consider the *difference* as the *invention*. The 'difference' may have seemed slight (as has been the case with some of history's great inventions, e.g. the telephone), but it may have been the key to success and advancement in the art resulting from the invention.
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> * * *
>
> Hence the statute, the law established not by judges but by Congress, requires that the invention as claimed be considered "as a whole" when considering whether that invention would have been obvious when it was made. 35 U.S.C. § 103.

Jones v. Hardy, 727 F.2d 1524, 1528, 220 USPQ 1021, 1024 (Fed. Cir. 1984).

(3) Misevaluation of the Prior Art

[8] The well established rule of law is that each prior art reference must be evaluated as an entirety, and that all of the prior art must be evaluated as a whole. *See W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d at 1550, 220 USPQ at 311; *In re Kuderna*, 426 F.2d 385, 390, 165 USPQ 575, 578-79 (CCPA 1970). The rule, as rules should, cuts both ways.

Inventions have often been held to have been obvious where no single reference disclosed the claimed invention, and in the face of arguments that the reference structures could not practically be "combined". That result was compelled because the art as a whole in those cases suggested the combination claimed. *See, e.g., In re Yamamoto*, 740 F.2d 1569, 1573, 222 USPQ 934, 937 (Fed. Cir. 1984); *Orthopedic Equipment v. United States*, 702 F.2d 1005, 1013, 217 USPQ 193, 200 (Fed. Cir. 1983).

At the same time, inventions have been held to have been nonobvious where neither any reference, considered in its entirety, nor the prior art as a whole, suggested the combination claimed. *See, e.g., Fromson v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 1556, 225 USPQ 26, 31 (Fed. Cir. 1985); *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 932-33 (Fed. Cir. 1984). That is the circumstance of record here.

Nowhere did the district court indicate where in the prior art there might be a suggestion for combining teachings of individual references, or how, if there were such suggestion, such a combination would equal any of those claimed in the patents in suit. There was here simply nothing in the prior art to rebut the presumption of validity to which the patents in suit are statutorily entitled.

What happened here occurred in *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d at 1550, 1552, 221 USPQ at 311, 312, where this court stated:

> In its consideration of the prior art, however, the district court erred . . . in considering the claims in less than their entireties . . . and in considering the references in less than their entireties, i.e., in disregarding disclosures in the references that diverge from and teach away from the invention at hand . . . .
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> * * *
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> . . . The result is that the claims were used as a frame, and individual naked parts of separate prior art references were employed as a mosaic to recreate a facsimile of the claimed invention.

As indicated in notes 2-5, and 7-10, *supra*, the court made specific technical and legal errors in evaluating the individual prior art patents, none of which was even close to the claimed inventions. The court made a basic error under the influence of hindsight, when it found in the prior art "problems" which were not extant in that prior art, but which were problems inventor Caveney had seen and solved and told the court about. The errors cited in the foregoing notes need not be further discussed here.

Three fundamental errors resulted from a disregard of the decision parameters governing the proper evaluation of prior art. The first, as above indicated, was the picking and choosing of "teeth", "ledges", and "hinges" either absent from the prior art references or there disclosed in entirely distinct form, characteristics, and relationships. It must be remembered that the Examiner is required to consider references in their entireties, i.e., including those portions that would argue against obviousness. The statute governing the obvious/non-obvious determination in light of the prior art, 35 U.S.C. § 103, is as applicable to courts as it is to Examiners. Courts are not, of course, bound by the Examiner's determination, but a court's route to a contrary determination is governed by the same statute, and must not be based on a superficial review of the prior art like that here employed.

[9] The second fundamental error was a disregard of the Examiner's consideration of all but one of the references relied on by Dennison, and of the irrelevancy of that one reference (Japanese patent, disclosing a releasable pawl). Nowhere does the district court indicate any basis for its disagreement with the Examiner's evaluation of the references, an oversight that may have been prompted by defense counsel's statement to the court: "The fact that the Patent Office [sic] allowed a claim is little evidence of whether there is anything patentable in the claim." Under the statute, 35 U.S.C. § 282, the fact of allowance is at least sufficient "evidence" to place on the challenger the burden of proving the Examiner wrong.

[10] The third fundamental error was the refusal of the court to credit the real world environment surrounding the inventions disclosed in the reference patents and in the patents in suit. Referring to the reference structures, the court paid no attention to insertion and withdrawal forces in the reference structures, or to the striking differences in the references, treating them as equivalents of each other. The court specifically stated, "I don't need to know all the details about how all these other things work or don't work." But "how things work" is critical to encouragement of every research and development ac-

tivity, and every advancement of the arts useful to the public, the very purposes of the patent system.

It was precisely "how things work" that made the prior art cable ties failures and the cable tie of the patent in suit the most successful in the history of the industry. It was "how things work" that caused Dennison's ten year development to fail and led Dennison to copy the tie of the patents in suit. It was "how things work" that enabled Caveney alone to achieve a one-half to 80 pound ratio between insertion and withdrawal forces. And it was a refusal to consider "how things work" that caused the court to cite isolated minutiae from various references, while ignoring critically important structural *distinctions* that significantly affect the different achievements of which the reference and claimed structures are capable.[19]

[11] The court appears to have been led, at least in part, to its erroneous evaluation of the prior art by defense counsel's trial tactic. Working at a large easel, counsel made free-hand sketches. Beginning with a sketch purported to represent a prior art structure (but with no claimed feature), counsel added a ledge, or a hinge, or a frame, and in minutes produced a cable tie design having all the features set forth in a claim. Counsel then offered his completed sketches as exhibits. They were admitted over Panduit's "strong objection". The court's statement from the bench indicates that it substituted counsel's sketches for the prior art patents, and that it was impressed with the ease and speed with which counsel created the claimed inventions in the courtroom. That procedure was inappropriate.

Counsel was not under oath and not subject to cross-examination. Admission of his "testimony" in the form of his sketches was non-probative. As above indicated, prior art references must be evaluated on what they taught or suggested in their entireties when the inven-

[19] The court's disinterest in how things in the prior art work caused it to disregard, *inter alia*, the effect of whether various elements in the prior art were in shear or in compression under load.

tion was made, not on hypothetical modifications made with knowledge of the invention in suit many years later. That rule is applicable to witnesses and, in even greater force, to counsel's "testimony". There was simply no justification for the conjectural modifications reflected in counsel's sketches. *See Carl Schenck, A.G. v. Nortron Corp.*, 713 F.2d 782, 787, 218 USPQ 698, 702 (Fed. Cir. 1983) ("modification unwarranted by the disclosure of a reference is improper").

Dennison does not rely on its counsel-prepared exhibits before this court. That is well, for the record is compelling that the inventing of cable ties is *not* the simple matter reflected in the trial tactic of defense counsel. Panduit invested nine years and several million dollars before achieving the successful tie of the patents in suit. Dennison tried for ten years, at a presumably similar expense, and failed. Dennison's prior art book contained twelve patents on pre-Caveney cable ties that were either never sold or were hopelessly outclassed in the marketplace by the cable tie of the patents in suit.

Indeed, it was *only* the district court who believed that cable tie inventing was a simple, obvious, routine matter of finding elements in the prior art and modifying them in accord with "principles of physics" and "common experience." To reach that belief, the court had to ignore what workers of ordinary skill *did* in the real world with those same principles and that same experience over the years (as shown in the whole of the prior art references). It also had to ignore the testimony of Dennison's own deposition witnesses. Dennison's chief engineer, Jack Stewart, said "the design of these ties is not as simple as it may appear on the surface." Stewart also said Dennison's research program was "tantalizingly close to success on many occasions." Dennison's senior engineer, Joyce, said "a good tie is a damn difficult thing to design, extremely difficult."[20]

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[20] Presumably arguing a different point, defense counsel stated to the district court "even where you are making millions of these, a tiny amount of plastic makes a big difference."

Properly evaluated, the prior art in this case confirms the non-obviousness of the claimed inventions in suit. The misevaluation applied here was of such nature as to destroy any patent. It was plain error.

(4) The Role of the Court

[12-14] Patents are born valid. 35 U.S.C. § 282; *Roper Corp. v. Litton Systems, Inc.*, 757 F.2d 1266, 1270, 225 USPQ 345, 347 (Fed. Cir. 1985). It is not, therefore, a required role of a court, in a suit for patent infringement, to declare patents valid.[21] Nor is it the court's role to start from scratch, as a surrogate Examiner, to referee *de novo* a dispute on the validity question.

Though that procedure would render the Patent and Trademark Office (PTO) unnecessary, it was essentially followed here. As above indicated, courts are clearly not bound by the events in the PTO or by its decisions. *Fromson v. Advance Offset Plate, Inc.*, 755 F.2d at 1555, 225 USPQ at 31. On the other hand, there is no point or value in, and no warrant for, proceeding as though nothing happened before suit except the naked issue of a patent.

The statute mandating a presumption of validity, 35 U.S.C. § 282, places the burden of proving facts compelling a conclusion of invalidity on the party asserting invalidity. This court has said the burden of proving facts compelling a conclusion of patent invalidity must be carried by clear and convincing evidence. *SSIH Equipment, S.A. v. U.S. Intern. Trade Comm'n*, 718 F.2d 365, 375, 218 USPQ 678, 687 (Fed. Cir. 1983). The role of the court

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[21] A suit brought only for a declaration that a patent is valid would be as stated an anomaly, the patent being presumed valid under the statute. A patentee who in an infringement suit asks the court to hold his patent "valid and infringed" states a redundancy (there is no liability if the patent be invalid). The unnecessary request for a "valid" holding also suggests a blurring of the burden assignment. However the issue arises, the burden of proving a patent *invalid* lies on one who asserts invalidity. 35 U.S.C. § 282.

is to determine whether the validity challenger carried that burden. If the court determines that that burden was not carried, it need only so state. If the court determines that that burden was carried, it should declare the patent invalid. *See Lindemann Maschinenfabrick GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, n. 1, 221 USPQ 481, 484 n. 1 (Fed. Cir. 1984).

Though the court here referred at the outset to the presumption of validity, mere lip service is insufficient. If the statute is not to be nullified, courts and lawyers must render it more than a mere nod in passing. It must be applied. Counsel for the patent should not undertake the non-existent initial burden of *proving validity*, but must be prepared to rebut whatever case of invalidity may be made by the patent's challenger. If counsel so misperceive their roles as to indicate a reversal, it should not be surprising that a court may be led to misperceive its own.

In the present case, as indicated above, n. 14, the district court said it had been "going back and forth" on the question of obviousness. It recognized the possible decisional influence of an overwhelming record of objective evidence (commercial success, failure of others, others going a different way, copying by Dennison), saying "this is a case that raises that question about as squarely as any I've encountered." It praised the "patents" [sic, claimed cable ties] as "better than anything else that then existed" and "best at the time." It said "there is room for some difference of opinion here based largely on those secondary considerations that have given me so much trouble in the case." Noting the cable tie of the patents in suit was an "excellent and, indeed preeminent commercial product," the court said it was "not easy" to reach its obviousness conclusion, but "I do so with great reluctance and great resistance." The court's uncertainty should have, in view of § 282, ended the obviousness inquiry.

It is at best difficult to find in the words of the court a firm conviction that Dennison had carried its burden

of establishing facts supporting invalidity of the patents in suit by clear and convincing evidence. On the contrary, the court indicated that it was not considering that question, but was considering whether *it* thought the claimed inventions obvious, and was, moreover, in substantial doubt on even that score.

Thus the district court gave too little, if any, effect to the presumption of validity, 35 U.S.C. § 282. That presumption is procedural, placing the burden of its rebuttal on the patent challenger. The rebuttal here presented by Dennison was based on prior art references fully considered by the Examiner who examined all three patents in suit, and a cumulative reference. As above indicated, those references, when properly evaluated, were, individually and collectively, totally inadequate. A proper evaluation of the prior art would therefore have established the failure of Dennison to carry its statutory burden and would have ended the obviousness inquiry in this case.

(5) Improper and Impossible Standards

(a) General Principles and Common Experience

[15] As above indicated, the district court in reaching its obviousness conclusion relied heavily on what it thought was "taught by general engineering principles and general principles of physics and, indeed, the common experience of mankind."[22] That approach is error for a number of reasons.

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[22] At another point, the court said, "The thing I find troublesome for the plaintiff here is the question of whether the solution to each of the various problems presented by the art were not obvious based upon engineering principles generally." The difficulty with that statement is at least four-fold: (1) the problems were not "presented by the art", but were recognized and solved by Caveney, as he testified; (2) the "engineering principles" were those employed by and described in the testimony of Caveney; (3) the same engineering principles were available to all workers in the art, including Dennison's, but for years did not produce in their hands the industry-leading product claimed in the patents

(Footnote continued on following page)

First, it is in conflict with the statute. Section 103 says nothing of such "principles" and "experience," but refers to whether the subject matter of inventions not anticipated by something in the "prior art" would nonetheless have been obvious in view of that art.

Second, it is in conflict with the patent examining system, which is based on examination of application claims in light of the prior art.

Third, it raises a standard impossible for any patent to meet. Humans do not create from nothing; they must employ the principles of engineering and physics and their experience. *Fromson v. Advance Offset Plate, Inc.*, 755 F.2d at 1556 n. 3. 225 USPQ at 31 n. 3. It cannot be the law that the only inventions patentable are those that cannot be explained by any known principles of engineering or physics. This court understated the point in *Lindemann Maschinenfabrick GMBH v. American Hoist & Derrick Co.*, 730 F.2d at 1462, 221 USPQ at 489, when it said: "That the claimed invention may employ known principles does not in itself establish that the invention would have been obvious. Most inventions do."

Fourth, the "principles" and "experience" here referred to were those taught the court by the inventor Caveney. There was no evidence on which it could be said that one deprived of Caveney's testimony would have been led by general principles and common experience to make the claimed inventions in suit. Indeed, the evidence was to the contrary. The district court's reliance on general principles and common experience simply ignored what actually happened in the cable tie industry over many years, including Dennison's failed decade of research. It also ignored the testimony of Dennison's engineers Stewart and Joyce, *supra*, in which they described the difficult nature of cable tie design work.

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[22] *continued*

in suit, and; (4) the statute, 35 U.S.C. § 103, removes from consideration the "manner" in which the invention was made.

Dennison on appeal makes no effort to support and does not mention the court's reliance on "principles" and "experience."

Whatever the unidentified "principles" of engineering and physics the court intended, and whatever was the non-described "common experience of mankind" the court had in mind, those principles and that experience were fully available to all who tried and failed before Caveney succeeded. They cannot serve as a basis for holding that the claimed inventions in suit would have been obvious under § 103.

(b) Unexpected Results

During closing argument, *after* the 11-day recess, Dennison's counsel handed the trial court a copy of this court's decision and opinion in *In re Sernaker*, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983) and implied that this court required an "unexpected result" in support of nonobviousness, saying that *Sernaker* "capsulizes the feelings of the Court of Appeals for the Federal Circuit." Dennison's counsel then went on to cite *Sernaker* as *requiring* an unexpected result in relation to each patent in suit, saying, for example, in respect of the '538 patent:

> . . . it is exactly what *In re Sernaker* says is not an invention [sic, is not patentable] because what you achieve by adding a hinge is exactly what you expect to achieve. You achieve flexibility. You do not get an unexpected result.

As above indicated, the district court, *before* the recess, noted that "other people were going in different ways" and "did not arrive at the Caveney structure." The court also said at that time that he was impressed that "other people faced with the same problem did not arrive" at Caveney's result, and that the strongest argument against randomly combining features of the prior art was "what other people were doing contemporaneously." After hearing the argument of Dennison's counsel based on *Sernaker*, the district court proceeded to find that Caveney's inventions produced no "unexpected result".

[16] Dennison's counsel misstated the law to the district court. *Sernaker* does not hold that an "unexpected result" is required before a conclusion of nonobviousness may be

reached, and does not "capsulize" this court's "feeling" that such a requirement exists. On the contrary, this court has specifically pointed out that, while an "unexpected result", like "synergism", may be *evidence* of nonobviousness, it is *not* a requirement. *See Lindemann Maschinenfabrick GMBH v. American Hoist & Derrick Co.*, 730 F.2d at 1461, 221 USPQ at 488; *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360-61, 220 USPQ 763, 771 (Fed. Cir. 1984).[23]

Moreover, if there were a requirement for an "unexpected result", that requirement would have been fully met here. That the achievement of a ½ to 80 pound ratio between insertion and withdrawal forces was unexpected is fully reflected in the totality of the evidence. That that achievement was not mentioned by the district court reflects not its absence but the court's overconcentration on a superficial review of the prior art and disregard of the claimed structural characteristics and relationships that produced that achievement.

(6) Objective Evidence

The human, real world story in evidence here not only reflects the inadequacy of the prior art, but compels a conclusion of non-obviousness of the claimed inventions in suit.

As above indicated, the cable tie of the patents in suit was an outstanding commercial success, selling at over $50 million a year by 1984 and becoming, early on, the unquestioned leading tie on the market. With all that waiting on the successful invention of a superior cable tie, the district court did not explain why, if Caveney's superior cable tie would have been so obvious, the many inventors that preceded Caveney did not find it so.

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[23] Though *Sernaker* was so heavily relied upon in the after-recess closing argument to the trial court, Dennison nowhere mentions it before this court, the source of that authority; nor does Dennison argue "lack of unexpected result" in its brief here.

It is extremely difficult to believe that Panduit and Dennison would have invested years and millions of dollars in an effort to achieve what had been obvious all along to all of ordinary skill in the art.

[17] That many others, including Dennison, had tried for years and failed to create a superior cable tie is virtually irrefutable evidence that the superior tie of the patents in suit would not have been obvious to those skilled in the art when it was invented.

That earlier workers were, as the district court correctly said, "going in different ways" is strong evidence that inventor Caveney's way would not have been obvious.

That Dennison, a large corporation with many engineers on its staff, did not copy any prior art device, but found it necessary to copy the cable tie of the claims in suit, is equally strong evidence of nonobviousness. As was once so well said, of an infringer and the invention appropriated: "It gives the tribute of its praise to the prior art; it gives the [invention] the tribute of its imitation, as others have done." *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U.S. 428, 441, 31 S.Ct. 444, 450, 55 L.Ed. 527 (1911).

It is at least incongruous for a court to say a commercially successful, industry-leading invention would have been obvious (to it) in view of the prior art and "principles/experience", when the record clearly establishes that when the invention was made it had *not* for years been obvious to earlier workers in the art, to the defendant's experts, or to the Examiner—all of whom had before them the *same* prior art and the *same* "principles/experience.".

[18, 19] Dennison's brief limits its argument on the objective evidence essentially to an attack on the commercial success of the cable tie of the patents in suit.[24] That

[24] Dennison's brief here purports to deny its ten-year struggle to develop a successful cable tie before it finally elected to copy

(Footnote continued on following page)

attack is without merit. First, it comes with poor grace from an infringer who achieved its own great commercial success and became the industry's second or third leader by making and selling its copy of that cable tie. Second, Dennison's suggestion that Panduit's success is due to unclaimed features or to its advertising or sales staff are either unsupported or contradicted in the evidence. Third, Dennison's attempt to limit Panduit's success to the tie claimed in the '538 patent makes no sense. That tie, and Dennison's copy of it, embodies all inventions set forth in all of the asserted claims in suit, and all are entitled to the benefit of the overwhelming success to which each has contributed.

That respect is required for the effect to be given objective evidence of nonobviousness, when that evidence is present, has been stated by this court. *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1555, 220 USPQ 303, 314; *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir. 1983).

The objective evidence is here so strong as to have withstood prior art references substantially more pertinent than those relied upon by Dennison. If it was ultimately given any weight by the district court, that weight was insufficient. In evaluating the objective evidence and its thrust, the district court erred.

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[24] *continued*

the tie of the '538 patent. That denial is in direct conflict with the uncontroverted evidence of record.

Dennison also says the district court gave due weight to the objective evidence because it "considered" it. A perfunctory statement is but lip service. Objective evidence *must* be given its appropriate effect, and, as the text makes clear, that was not done here.

Dennison's brief does not repeat before us its mischaracterization presented to the district court of this court's decision in *W.L. Gore & Assocs. v. Garlock, Inc., supra.* This court did not in that case hold that objective evidence is relevant only in "close" cases and when a court is "undecided."

(c) Conclusion On § 103

[20] The district court having erred in reaching its conclusion on obviousness under § 103, the portion of its judgment resting on that conclusion must be reversed.

(II) Double Patenting

[21] The district court, as above indicated, devoted two sentences to Dennison's double-patenting defense. It did not, nor does Dennison, compare the claims, or assert that the claims of the '869 and '538 patents are not patentably distinct, or that issuance of the '538 patent extended the term of the '869 patent. *See In re Longi*, 759 F.2d 887, 892-95, 225 USPQ 645, 648-50 (Fed. Cir. 1985).

Nothing of record supports a double patenting defense. The court in effect simply and erroneously held the '538 patent invalid for obviousness under 35 U.S.C. § 103 in view of the '869 patent, and under the rubric of "double patenting". Because the '869 patent is not prior art to the '538 patent, *supra*, n. 11, the patented invention cannot be held to have been obvious under § 103. Hence, that portion of the district court's judgment that rests on its double patenting determination must be reversed.[25] Moreover, had the district court properly applied the test for obviousness type double patenting by comparing the claims of both patents, it would have concluded that the '538 claimed invention is not an obvious variation of the '869 claimed invention.

(III) The '146 Patent and § 102(g)

Dennison, as it has a right to do, attempts to support the judgment with respect to the '146 patent by alleging error in the district court's rejection of its § 102(g) defense against that patent. The trial court found that Dennison was in no way prejudiced by a delay in the filing of the

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[25] As reflected in the text, the district court misinterpreted the '869 disclosures and the '538 claims.

'146 patent application. Nothing of record would indicate that that finding was clearly erroneous.

[22] Dennison's effort to create a forfeiture out of the instant facts, arguing that Panduit "lost the patent right" by delay is meritless, as indicated by *Paulik v. Rizkalla*, 760 F.2d 1270, 1272, 226 USPQ 224, 225 (Fed. Cir. 1985) (in banc), wherein it was stated:

> This historic jurisprudence from which 35 U.S.C. § 102(g) flowed reminds us that "the mere lapse of time" will not prevent the inventor from receiving a patent. *Mason v. Hepburn*, 13 App.D.C. 86, 91, 1898 C.D. 510, 513 (1898). The sole exception to this principle resides in section 102(g) and the exigencies of the priority contest.

There is thus no basis for applying section 102(g) to mere delays in filing, except in priority contests where the equities between claimants for the same invention may be fully evaluated.

[23] Dennison tries to extend 102(g) to the present facts, arguing that Bourne invented the "concept" of the '146 patent. However, as above indicated, n.8, *supra*, Bourne discloses a non-hinged pawl. "Concepts" do not anticipate. The law looks to the particular inquiries set forth in 35 U.S.C. § 102(a)-(g), which focus on knowledge, use, sale, disclosure, etc., of the *invention*. Notions of "concept", "essence", "key", "gist", etc., are no more useful in the context of § 102 than elsewhere, because they divert the fact-finder's attention from the subject matter of the invention as a whole.

[24] "Anticipation" for the purposes of § 102 requires "the presence in a single prior art disclosure of all elements of a claimed invention arranged as in that claim". *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983). It is a finding of fact subject to the clearly erroneous rule. *Carman Ind. Inc. v. Wahl*, 724 F.2d 932 (Fed. Cir. 1983); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d at 1548, 220 USPQ at 309. The district court's refusal to find the '146 patent anticipated by Bourne was not clearly erroneous.

Where, as here, an alleged other inventor discloses at most a contemporaneous development distinct from the invention in suit, there is no basis for Dennison's suggestion that an extension of section 102(g) be created for application outside a priority contest.

(IV) Dennison's Presentation on Appeal

On appeal, Dennison proffers only superficial characterizations of the claimed inventions and the references, as it did before the district court. At no point does Dennison treat any claimed invention or any reference as a whole. The meaningless one-word descriptions of the claimed inventions and reference structures in Dennison's brief are of no use or assistance to this court.[26]

Dennison misstates the record in arguing that the prosecution history of the '538 patent indicates that the hinge there shown and claimed will "collapse under heavy load." The quoted phrase related to an entirely *different* embodiment that was ruled new matter and never added to the '538 application.

The trial court relied primarily on the '869 patent as prior art against the '538 patent. It twice specifically and correctly refused to rely on the Orban reference. Dennison's brief relies, ineffectively and without reference to the district court's view, on elements it purports to find in Orban.

In a confused and confusing effort to shore up the obviousness conclusion of the district court, Dennison abandons much of what the court said. It then cites items in the record about which not a word was said at trial, and with no explanation as to how those items can be seen to suggest the claimed inventions in suit. *See Amstar*

[26] Dennison's argument that the Examiner had not "appreciated the significance of this prior art" (though cited and applied by the Examiner) is a conjecture made even less palatable by Dennison's failure to explain any of the references (saying only that one has a "hinge," another has a "ledge", etc.).

Corp. v. Envirotech Corp., 730 F.2d 1476, 1486, 221 USPQ 649, 656-57 (Fed. Cir. 1984).

Dennison's analysis here of the prior art relied upon by the district court as invalidating the '869 patent consists of two lines in which it says only that three prior patents "teach support." That useless characterization does not aid this court in analyzing the references as wholes, nor does it begin to explain how the cited references teach or suggest the claimed inventions. Similarly, Dennison points to an incomprehensible phrase ("flexibility pivotable ratchet buckle"), in the Fein reference, while ignoring Fein's full disclosure and the trial record, which establish that Fein's pawl is rigid and that its structure is entirely distinct from those claimed in the patents in suit.

Dennison intimates here that a cable tie found on sale was that of the Bourne patent, but Dennison's counsel admitted to the district court that "pictures in the on sale defense are of different cable ties." The district court stated that Dennison made no serious argument before it that the on sale product anticipated the claimed inventions in suit.

Dennison misleadingly says that the inventions of the '869 and '538 patents were made "simultaneously", referring to a stipulation that certain drawings established conception of the subject matter of the representative claims "as of" January 1968, which is an entirely different matter. Dennison knows the inventions were not made simultaneously, admitting at another point in its brief that the first sketch of the '869 structure was made a few weeks *after* the '538 structure was reduced to practice.

In a post-hearing letter, Dennison's counsel tells the court that an exhibit (PX-55) was "excluded from evidence at the trial." That is not true. The deposition testimony forming part of that exhibit, and the documentary exhibits referred to therein, were admitted into evidence. There was objection to the argument portion of the exhibit. The district court accepted that portion as a trial brief and invited Dennison to respond. Dennison did not do so.

[25] In sum, Dennison's presentation on appeal is disingenuous, containing mischaracterizations, misleading statements, and improper submissions. It has unnecessarily burdened the court with extraordinary need to check the record in respect of each of its assertions, only to find in too many instances a lack of candor. Accordingly, Panduit is awarded double its costs on appeal. *Amstar Corp. v. Envirotech Corp.*, 730 F.2d at 1486, 221 USPQ at 656-57.

CONCLUSION

The judgment of the district court with respect to validity is reversed and the case is remanded for further proceedings not inconsistent with this opinion.

REVERSED.

APPENDIX

The Claims in Suit

The '146 Patent

Claim 24 was stipulated as representative:

24. An integral one-piece cable-tie to be tensioned about a bundle of wires and the like, said cable tie comprising an elongated flexible strap, a frame integral with one end of said strap and including an abutment wall, said frame having an entry surface and an exit surface and a strap-receiving opening extending there-through, a row of teeth disposed on one longitudinal surface of said strap and arranged transversely with respect thereto, a pawl hingedly mounted on and integral with said frame and extending into said strap-receiving opening toward said abutment wall, said abutment wall having a strap-bearing surface disposed toward said pawl and defining therewith a strap-receiving channel, and a set of teeth on said pawl arranged transversely with respect thereto and disposed toward said abutment wall and shaped complementary to

said row of teeth on said strap, the crests of a plurality of the teeth in said set of teeth lying in a common surface space equidistantly from said strap-bearing surface in the tensioned condition, said strap being deformable into a loop encircling a bundle of wires with the other end of said strap extending into said strap-receiving channel and through the opening in said frame and therebeyond, said set of teeth being disposed toward said row of teeth as said strap is tightened about the bundle of wires to a tensioned condition, said set of teeth upon release of said tensioned strap moving into firm engagement with adjacent ones of said row of teeth, any force tending to withdraw said strap from within said strap-receiving channel in a strap-loosening direction serving to move said set of teeth including said plurality of teeth into more firm engagement with the engaged ones of said row of teeth firmly to wedge said strap between said strap-bearing surface and said pawl, whereby to prevent inadvertent withdrawal of said strap from said frame and thus to lock said strap in its tensioned condition about the bundel [sic] of wires.

The '869 Patent

Claim 10 was stipulated as representative:

10. An integral one-piece cable tie to be tensioned about a bundle of wires and the like, said cable tie comprising an elongated flexible strap, a row of abutments disposed on one longitudinal surface of said strap and arranged transversely with respect thereto, a frame integral with one end of said strap and including an end wall and an abutment wall and a pair of longitudinally extending and spaced-apart side walls interconnecting said end wall and said abutment wall, said frame having an entry surface and an exit and a strap-receiving opening extending there-through, a ledge on said end wall extending between the interconnecting said side walls and extending longitudinally from said end wall toward said abutment wall, a pawl disposed within said frame in said strap-receiving opening and pivotally mounted on an integral with said

ledge, said abutment wall having a strap-bearing surface disposed toward said pawl and defining therewith a strap-receiving throat, the longitudinal axis of said throat being disposed substantially normal to the longitudinal axis of said strap as molded, and a tooth on said pawl arranged transversely with respect thereto and disposed toward said abutment wall and shaped to engage said row of abutments on said strap, said strap being deformable into a loop encircling a bundle of wires with the free end of said strap extending into said strap-receiving throat and through the opening in said frame and therebeyond, said tooth being disposed toward said row of abutments as said strap is tensioned about and release [sic] said strap causing at least one of said abutments firmly to engage said tooth, any force tending to withdraw said strap from within said strap-receiving throat in a strap-loosening direction serving to move said tooth into more firm engagement with the engaged ones of said row of abutments firmly to grip said strap between said strap-bearing surface and said pawl, whereby to prevent inadvertent withdrawal of said strap from said frame and thus to lock said strap in its tensioned condition about the bundle of wires.

(c) The '538 Patent

Claims 1 and 6 were stipulated as representative:

1. An integral one-piece cable tie to be tensioned about a bundle of wires and the like, said cable tie comprising an elongated flexible strap, a row of abutments disposed on one longitudinal surface of said strap and arranged transversely with respect thereto, a frame integral with one end of said strap and including an end wall and an abutment wall, said frame having an entry surface and an exit surface and a strap-receiving opening extending therethrough, a ledge on said end wall extending longitudinally therefrom toward said abutment wall, a pawl disposed within said frame in said strap-receiving opening between said ledge and said exit surface, a hinge interconnecting said ledge and the end of said pawl disposed toward said entry surface, the longitudinal extent of said

hinge being less than the longitudinal extent of said ledge at the junction therebetween, the longitudinal cross-sectional area of said hinge being less than the longitudinal cross-sectional area of said pawl at the junction therebetween, said pawl and said hinge cooperating so that said pawl is limited to substantially pivotal movement with respect to said frame about the connection to said ledge, said pawl in the as-molded position thereof and in all other positions thereof including the tensioned position thereof being disposed entirely within said frame between the entry and exit surfaces thereof, said abutment wall having a strap-bearing surface disposed toward said pawl and defining therewith a strap-receiving throat, and a tooth on said pawl arranged transversely with respect thereto and disposed toward said abutment wall and shaped to engage said row of abutments on said strap, said strap being deformable into a loop encircling a bundle of wires with the free end of said strap extending into said strap-receiving throat and through the opening in said frame and therebeyond, said tooth being disposed toward said row of abutments as said strap is tensioned about the bundle of wires to a tensioned condition, and release of said strap causing at least one of said abutments firmly to engage said tooth, any force tending to withdraw said strap from within said strap-receiving throat in a strap-loosening direction serving to move said tooth into more firm engagement with the engaged ones of said row of abutments firmly to grasp said strap between said strap-bearing surface and said pawl, whereby to prevent inadvertent withdrawal of said strap from said frame and thus to lock said strap in its tensioned condition about the bundle of wires.

6. The integral one-piece cable tie set forth in claim 1, wherein the normal tensioned position of said pawl is substantially the as-molded position thereof.

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

PANDUIT CORPORATION, *Plaintiff,* v. DENNISON MANUFACTURING CO., *Defendant.*	Appeal No. 78 C 4973 Chicago, Illinois November 8, 1984 2:45 p.m.

DECISION

TRANSCRIPT OF PROCEEDINGS BEFORE
THE HONORABLE JOHN F. GRADY

APPEARANCES:

For the plaintiff:
MR. CHARLES F. PIGOTT, JR.
MR. CHARLES WENTZEL

For the defendant:
MR. JAMES P. RYTHER
MR. THOMAS C. ELLIOTT, JR.
MR. THOMAS CURRY

[1616] THE COURT: Your arguments were very helpful to me, gentlemen. The level of advocacy in this case has been very high due in part to the competence of counsel and due in part to the fact that you concentrated on what was really in issue in the case and did not get bogged down in trivia or technicalities or irrelevancies as sometimes happens in litigation. So both sides are to be commended for the clarity and the force of their presentations.

I will give you my findings of fact and conclusions of law. This case has to be decided on the question of whether the plaintiff's patents are invalid by reason of obviousness. The question of infringement is not contested.

The Court should first define the art involved and the level of ordinary skill in the art. The art that is involved here, of course, is the art of designing plastic cable ties. I find that the ordinary level of skill in that art is the skill possessed by a graduate engineer, probably a mechanical engineer, with a high degree of familiarity with plastics and plastic molding. The knowledge possessed by such a person was not simply the knowledge yielded by an inspection of prior patents and other public uses but, rather, engineering principles and knowledge of the properties of the plastic materials utilized [1617] in the cable ties.

There has been reference from time to time to "skilled workers," and one might get the impression that the degree of expertise involved is that of someone working on the production line at a machine such as a molder. That I find is not the degree of skill possessed by a person whose business is the designing as distinguished from the making of plastic cable ties. One would not ordinarily attempt to design a cable tie unless he or she were an engineer with a considerable background in the relevant technology.

Turning to the question of when the first of plaintiff's patents was reduced to practice, so that we can determine what is prior art in regard to that invention, I find that the '146 invention was reduced to practice in 1961, as the plaintiff claims it was.

[1618] I find the testimony of Mr. Caveney and Mr. Moody to be credible, and their testimony is corroborated to a very high degree by the affidavit of Mr. Porcelli.

The Moody drawing causes a problem, and it is not easy to explain why Mr. Moody would have drawn a cable tie with a pawl attached to such a narrow neck as the one he drew. I have no explanation for that. But it is the only

fact which throws any doubt upon the date of reduction to practice, and it simply is not enough to prevent me from concluding that 1961 was, in fact, the date of the reduction of the '146 patent to practice.

On the question of whether or not plaintiff forfeited any of its patents by delay in filing its patent applications, I find that there was no such forfeiture. It seems to me that in order for the question of forfeiture to be presented, there must be a showing of prejudice or reliance or some change of position on the part of other persons, and there has been no such showing here. Mere delay without more does not result in forfeiture, and all I see here is mere delay.

Now, we turn to the question of whether plaintiff's inventions were obvious. In addressing that question, it is, of course, important for the Court to bear in mind the various principles which counsel have discussed in their arguments here. It is not appropriate for the Court to engage in hindsight. Furthermore, it is not appropriate [1619] for the Court to pick and choose isolated elements from various prior art references and combine them so as to yield the invention in question when such combining would not have been an obvious thing to do at the time in question.

In considering the question of obviousness in this case, I have given special emphasis to the question of commercial success and the related failures by others and copying by Dennison. I am satisfied that in plaintiff's patents we see the best of the art at the times in question. The '146 patent was better than anything else that then existed and the second two patents, the '869 and '538 patents, were the best at the time.

In fact, plaintiff's commercial embodiment of the '538 patent appears to be the leader in the industry. As I have remarked at various times during the trial, the evidence is simply overwhelming that Dennison copied the '538 patent.

Now, this commercial success, the failure of others and the copying by Dennison argue strongly in favor of non-

obviousness. In addition, of course, plaintiff has the benefit of the rule that the presumption of validity of the patent can be overcome only by clear and convincing evidence.

It is with these caveats firmly in mind that I will now undertake an analysis of each of the patents.

We will start with the '146 patent. The [1620] closest prior art reference is Emery, but Emery had a problem. The strap of the cable tie protruded from the head when the cable tie was in tension, and this protruding strap caused difficulties in the various applications to which the tie was put.

[1621] For instance, it could be entangled in various kinds of machinery.

So it became desirable to address that problem. The more specific problem with the protruding strap was that the cable tie could become undone since there was only one tooth on the Emery tie. And any pulling of the protruding end of the strap could easily disengage that one tooth.

So the problem presented by Emery was the so called release problem. The one engaging tooth could be too easily disengaged by some casual entanglement of the protruding strap with a foreign object.

The solution to the release problem that is offered by the '146 patent is to engage more than one tooth on the pawl with more than one tooth on the strap.

The plaintiff claims that the '146 patent in Claim 1 adds three new elements to Emery, namely, plural teeth on the pawl, sequential engagement of those teeth with the teeth on the strap, and wedging of those engaged members against the abutting wall in such a manner that in tension the engagement becomes stronger.

I conclude that this is simply a description of one element, not three. The introduction of plural teeth is for the purpose of engaging more than one tooth on the pawl with more than one tooth on the strap. Such [1622] an engagement is necessarily sequential when the strap is

moving through the head, and the purpose of the engagement inside the head is to wedge the strap between the pawl and the abutting wall.

In short, it seems to me that one element has been broken down into three elements, and in so doing plaintiff is able to argue that it has more patentable differences over Emery than I find to be the case.

Now, if, of course, Emery does not teach the interlocking of the pawl and strap in such a manner that there is indeed a wedging against the abutting wall, then Plaintiff would be able to argue that wedging is not implicit in the decision to have more than one tooth in the first place.

Plaintiff points to Figure 2 of the Emery patent as evidence that Emery did not appreciate the desirability of wedging against the abutment wall. And Figure 2 does, indeed, show a substantial portion of the pawl and the engaged strap to be sticking out of the head and obviously not in contact with the abutting wall.

On the other hand, the text of the Emery patent makes abundantly clear that Emery's intention was to achieve wedging against the abutment wall. That can only be accomplished if the wedging is inside the head, because that is where the abutting wall is, inside the head.

[1623] Now, how do we account for the drawing? I can't account for that drawing any more than I can account for the Moody drawing. It's an aberration, it's an anomaly. And as I indicated a little earlier this afternoon, it is difficult to believe that someone whose only task was to make two drawings, could make a mistake on one of them when his business is making patent drawings. And yet, I adopt defendant's suggestion that what is represented by Figure 2 of Emery is a draftsman's error.

You can't read that patent with any knowledge whatever of the art involved and conclude that the lion's share of the engagement of the strap and the pawl is supposed to take place outside the head.

I conclude, therefore, that Emery is specific prior art for wedging the strap between the pawl and the abutment wall inside the head, and doing it in a secure manner so that the strap won't come loose.

Now we are back where we started. It did tend to come loose because there was only one tooth. And the '146 solution to that was to add more teeth and put those teeth exactly where the intelligent reader of Emery would have known they should be, namely on the pawl, inside the head, gripping the strap against the abutment wall.

The engagement will necessarily be sequential; it can't take place any other way. And in order to achieve [1624] the parallel kind of relationship between the pawl and the abutment wall that will be necessary for effective wedging, it follows that the teeth of the pawl must be in a straight line and equidistant from the surface of the abutment wall.

[1625] Thus, Claim 24 of the '146 patent is necessarily implied in a decision to use multiple teeth for the purpose of more effective wedging.

Now, I believe that if there were no prior art reference whatever that showed multiple teeth, the use of multiple teeth was, nonetheless, obvious in light of the problem presented by Emery.

The problem was, there was only one tooth, and that could become disengaged.

Now, I have tried to talk myself out of the conclusion that the way you solve that is to use some additional teeth, and I have tried not to use hindsight, and I have resisted evidence that would not be clear and convincing, and I think I have done everything I am supposed to do to resist the conclusion that that solution is obvious. But I have been unsuccessful.

My conclusion is that with no prior art at all, the use of more teeth on the pawl to engage the strap inside the head in a sequential manner, necessarily sequential manner, so that if there is some yanking on the strap, you

have got more than one tooth in the wedged position to resist that tugging, is obvious.

But the fact of the matter is that there is prior art demonstrating the use of multiple teeth, and that is Fein and Litwin.

[1626] I tend to agree with plaintiff, that there can be arguments made to the effect that Fein doesn't teach anything more than the use of multiple teeth, and that Litwin doesn't teach much more than that either.

But in my view, that is all that is necessary to be taught. And as I have indicated, I don't even think it is necessary for anybody to teach that in view of the fact that it was an obvious solution.

I find, therefore, that Claims 1 and 24 of the '146 patent would have been obvious to a person of ordinary skill in the art at the time of the claimed invention. And my finding in that regard is based upon what I believe is clear and convincing evidence, and that finding is that the combination is obvious—or was obvious.

I am well aware that you don't just simply address the question of whether the use of multiple teeth was obvious. You address the question of whether the whole combination was obvious. And that is what I find. I find that that combination was obvious.

I will now turn to the '869 patent.

The problem addressed by that patent was insufficient strength in compression. The position of the hinge on the pawl was such that the compressive strength was insufficient for most jobs that a cable tie would be called upon to perform. It had a tensile strength of only 20 pounds.

[1627] Now, the reason for this was that the cable tie was positioned in such a way that when in tension there was nothing under the hinge to absorb the compressive force. The hinge was essentially perpendicular to the axis of the strap.

The solution devised by Caveney for that problem was to change the orientation of the pawl to a more or less

vertical position, so that it would be essentially parallel to the axis of the tensioned strap, and then to place a ledge under the pawl to absorb the compressive force.

A contemporaneous development was the Eberhardt patent, which referred to a ledge being provided so as to constitute a rigid base. The Japanese patent and the Litwin patent, which are prior art to the '869 patent, also showed structures analogous to the '869 ledge in that they absorbed compressive force, force exerted by the strap as it was tightened about the bundle.

As in the case of the introduction of an additional tooth or additional teeth in the '146 patent, the result achieved by introducing a ledge in the '869 patent was altogether expected. One of the tests for non-obviousness is whether there is an unexpected result. I do not mean to imply that there has to be an unexpected result, but, on the other hand, where the result of a rather ordinary step is exactly what you would expect and simply bears out the reason for your [1628] doing it in the first place, that is an argument for obviousness.

It seems to me, and I so find, that to increase the compressive strength of the cable tie, and specifically the pawl and hinge of the cable tie, you would set the pawl on a ledge.

Moreover, unless one were going to go out of his way to make the ledge a weak one, it is obvious that the ledge should be an integral part of the head of the tie. And extending the ledge from side wall to side wall is an obvious way to accomplish that.

I am unable to tell whether there is a ledge in Orban or not, and I give plaintiff the benefit of the doubt on that, which I think plaintiff is entitled to have.

So for purposes of my decision, I am assuming that there is no ledge in Orban. Or, put another way, I find that the person of ordinary skill in the art would not necessarily find a ledge in Orban either in the text or in the drawings. But I, nonetheless, find the '869 patent to be obvious both on general principles of physics and in light of the Japanese patent and the Litwin patent.

Now, the '869 patent had its own problems. The principal problem, I take it, was that the pawl was not sufficiently flexible. It was attached to the ledge and was found not to bend enough when the strap was introduced into the head [1629] channel and then tensioned.

What could happen and apparently did happen was that the teeth would tend to break off when contacted by the strap in what has been described, I believe, as a file-like action. The problem specifically was a rather rigid pawl. The rigidity of the pawl made the teeth vulnerable to filing. And, of course, if the teeth came off, you were back at the Emery problem of the strap becoming disengaged.

Now, if the problem is rigidity, the opposite of rigidity is flexibility. So it seems to me that the person of ordinary skill in the art, when recognizing the problem—and that, incidentally, would not have been difficult—there is testimony in the record that the problem was obvious, the problem itself was obvious—the teeth were being filed off—the person of ordinary skill in the art would necessarily think in terms of making the pawl more flexible than it was. The objective would be to achieve some way of enabling the pawl to get out of the way of the strap as it moved past so that the teeth would not be filed off.

How do you do that? Well, the way the '538 patent does it is by way of the so called discrete hinge.

[1630] And that is the essence of '538 patent, the discrete hinge.

A hinge is an elementary method of making something bend. I understand the difference between a so-called cantilever beam and a hinge. The cantilever beam would not be the solution here, but I think that the person of ordinary skill in the art would realize that.

The solution is a hinge because you want to do nothing to interfere with the multiple engagement of the teeth. So you want the pawl to get out of the way when it's desirable to get out of the way, but yet to come back when it's supposed to come back and end up in a position parallel to the abutment wall with its teeth equidistant from the abutment wall.

I know of no way to do that, and I don't think the evidence in the case indicates any way to do that, but by use of a hinge.

Now, there are numerous examples in the prior art of hinges and discrete hinges of the kind claimed in the '538 patent. The web in Emery is one example. Litwin has a hinge. Fein, if hinging is a matter of degree, has a hinge, and I refer to Column 2, Line 37 of Fein.

I am not going to say that Orban has a discrete hinge because I think that can be argued either way. And a great deal of time in the trial was spent in that argument, [1631] and I would not want to indicate that I am basing my decision on whether Orban does or does not have a discrete hinge.

A contemporaneous development that is pertinent is the Bourne patent that had a discrete hinge.

But returning to the prior art, perhaps the most relevant prior art and the one piece of prior art with the most far-reaching implications in this case is the '146 patent. There a discrete hinge was clearly shown.

The discrete hinge in the '538 patent is claimed in language that one would have to sit through this trial to understand is intended to be talking about a hinge. And because of that, it is possible for counsel to argue, as was done in the case of the '146 patent, that many elements are being claimed.

But just as in the '146 patent, I find that what was done in the '538 claim was to describe a number of necessary characteristics of the same element as though they were separate elements.

I find nothing in the '538 patent, or at least Claim 1 thereof, other than a discrete hinge, that is new over the '869 patent.

Now, Claim 6 of the '538 patent claims a pawl which is in the same position, in the tensioned position as it is in the as-molded position. That claim is contained, or shown, in Orban. Figure 2 of Orban shows the as-molded [1632] position, and Figure 4 shows the tensioned posi-

tion, and they are identical. So there is nothing new in Claim 6.

I find each element and the combination of elements in the '538 patent to have been obvious to a person of ordinary skill in the art at the time of the claimed inventions.

[1633] Speaking generally, I think that plaintiff's approach to the case has been flawed by two errors. One is that a few claims have been multiplied into an apparent plurality of claims, or larger number of claims—or claim elements, I mean, by splitting what are essentially the same element into a number of parts.

I have illustrated what I mean by that in connection with the '146 patent. The sequential engagement and the parallelism and the equidistance are not three elements in addition to the plural teeth, but are inherent in the concept of plural teeth.

The second error that seems to me to affect the plaintiff's case is that there has been an over-dependence upon a claimed lack of specific prior art references and insufficient attention to what is taught by general engineering principles and general principles of physics and, indeed, the common experience of mankind. The idea that to support something, you put a platform under it, must be one of the oldest observations that man has made.

Now, I want to return to where I started and say that I think that Mr. Caveney and Mr. Moody and Panduit have designed and perfected an excellent and, indeed, preeminent commercial product. And the fact that they have done so contributed greatly to the difficulty of this case. It is not easy to find something obvious in the face of [1634] those facts. And I do so with great reluctance and great resistance. And, in fact, I have been going back and forth on this thing in my mind throughout the trial.

It gives me great comfort to know that I am just the first stop on this trip. Everything I have said here can be analyzed just as well by the Court of Appeals for the Federal Circuit.

All the documents are here, the testimony is there for them to read, and if they come to a different conclusion than I, so be it.

This is a case in which the credibility of the witnesses has really played a very small part. It is primarily, it seems to me, a matter of applying your experience to the undisputed facts. It's a matter of interpretation. What do these things teach? What would they teach a person of ordinary skill in the art?

Now, in conclusion I would like to make findings on some miscellaneous questions.

I find that the Alex exhibits were the exhibits that were involved in the public use proceeding. There is no question about that in my mind.

Panduit was, or should have been in a position to gainsay that if it had not been true. And so you have what I find to be very convincing circumstantial evidence that stands absolutely unrebutted.

[1635] So the Alex exhibits, the cable ties and the charts and the drawings and other documents, are the ones that were involved in the public use proceeding.

Now, the significance of that does not appear to me to be great. The defendant has made no serious argument that that product that was on sale anticipates any of the patents in question, and there is no evidence that persuades me that they did anticipate the patents in question. So I am not sure just what importance that question has in the case.

I further find that the plaintiff presented confusing claims to the Patent Office over a long series of patent applications for various cable ties, and that to some extent its arguments were inconsistent and self-contradictory.

[1636] It may well be that if I am right here and the examiner was wrong, the reason for his error was that he was inundated with a great deal of material which confused him.

Turning to the question of double patenting as between the '869 and the '538 patent, I find that there is double

patenting. The reason for that is that the discrete hinge in the '538 patent is not a patentable difference over the '869 patent. It was obvious in the light of the '146 patent and the other considerations I have mentioned.

I further find on another question that I have already covered, but I will make a specific finding on it, that Dennison did copy the Panduit patents. If there were any doubts on that, it would have been dispelled by Dennison's failure to bring to court the people who could have denied that, if it were possible to deny it. Instead Dennison brought people who had secondhand relatively remote connection with the accused devices and I found their testimony to be of very little assistance.

On the question of infringement, I find that the accused devices would infringe the patents in suit if those patents were valid, but because those patents are not valid, the defendant cannot be found guilty of infringement.

Finally, because I believe the defendant is claiming attorney's fees in this case, I will make a ruling on that now. I find that this is not an exceptional case [1637] within the meaning of the statute. I do not regard plaintiff's claims to be frivolous or brought in bad faith. I think there is room for some difference of opinion here based largely upon those secondary considerations that have given me such trouble in the case: failure by others, copying by Dennison, and unquestioned commercial success of the plaintiff.

While I have found the issues in favor of the defendant, I do not believe that this is an appropriate case for the imposition of fees and, therefore, deny that prayer of the defendant.

For these reasons, I find the issues in favor of the defendant and against the plaintiff and enter judgment that the patents in suit are invalid by reason of obviousness.

Now, those are my findings of fact and conclusions of law. If you wish to prepare a judgment order that will contain any additional findings that are routine and should

be included, you may do so and attach a transcript of my remarks to that judgment order, and that will constitute the order of the Court.

Does anybody have any additional suggestions?

MR. RYTHER: Do I have any particular time, your Honor?

THE COURT: No. I would expect you to confer on [1638] the form of it, —

MR. RYTHER: Fine.

THE COURT: — and work it out in a manner that is agreeable to you.

(Which were all the proceedings had on the above entitled cause on the day and date aforesaid.)

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

PANDUIT CORPORATION,	)	
	)	
Plaintiff,	)	
	)	Civil Action
v.	)	No. 78 C 4973
	)	
DENNISON MANUFACTURING CO.,	)	Hon. John F. Grady
	)	
Defendant.	)	

FINDINGS OF FACT, CONCLUSIONS OF LAW AND JUDGMENT ORDER

The primary findings and conclusions were made by the court on November 8, 1984 at the conclusion of the trial, and a transcript thereof is attached. The following comprise supplemental findings and conclusions adopted upon further consideration of the matters tried.

I. *SUPPLEMENTAL FINDINGS OF FACT*

1) This is an action for infringement of U.S. Patent No. 3,537,146 (hereinafter the '146 patent), of U.S. Patent No. 3,660,869 (hereinafter the '869 patent), and of U.S. Patent No. 3,965,538 (hereinafter the '538 patent). Plaintiff is the owner of the three patents.

2) The court has jurisdiction of the parties and the subject matter, and venue is proper in this court.

3) The issues raised by the pleadings and tried to the court are:

a. whether Claims 1-4, 7, 10, 12, 14-22 and 24-27 of the '146 patent; Claims 1, 10 and 12 of the '869

patent; and Claims 1, 2, 5, 6, 11, 17 and 21 of the '538 patent are valid; and, if so,

b. whether these claims have been infringed by defendant.

4) By stipulation, Claims 1 and 24 of the '146 patent, Claim 10 of the '869 patent and Claim 6 of the '538 patent, are representative claims of the respective patents, and a resolution of the issues with respect to a representative claim of a patent is a resolution with respect to all asserted claims of that patent.

5) Plaintiff's trial exhibits 16 and 17 illustrate the accused structures, and defendant does not dispute that the representative claims of the '146 and '869 patents, as interpreted by the plaintiff, would be infringed by the structure of plaintiff's trial exhibit 17, and that the representative claims of the '146, '869 and '538 patents, as interpreted by the plaintiff, would be infringed by the structure of plaintiff's trial exhibit 16. Defendant correctly contends, however, that the same interpretation must be given to the claims when comparing them with the prior art.

6) Plaintiff's trial exhibits 46, 47 and 60 represent the commercial products of plaintiff in the time period indicated thereon. These products are the "commercial product" referred to on page 1633 of the attached transcript.

7) The "Alex" exhibits referred to on page 1634 of the attached transcript consist of the photographs marked as defendant's trial exhibits 81A, 82A, 83A, 84A through F, inclusive, 85A, and 86A through C, inclusive. The "public use proceeding" referred to is the proceeding identified in defendant's trial exhibit 28. These exhibits have been considered only as evidence of contemporaneous developments by Bowthorpe-Hellerman, as stipulated by the parties. It is understood that the developments are prior art to the '869 and '538 patents if on sale more than one year prior to the respective filing dates, however, that fact is not a basis of the decision of patent invalidity.

8) The "series of applications" referred to on page 1635 of the attached transcript comprise those applications identified in defendant's trial exhibit 60.

9) In the analysis of the question of double patenting referred to on page 1636 of the attached transcript, representative Claim 6 of the '538 patent was considered in light of representative Claim 10 of the '869 patent. The primary prior art teachings relied on are found in Orban and in the '146 patent.

10) With respect to the '538 patent, the prior art considered comprised Emery (U.S. Patent No. 3,127,648, DX 10a) the Japanese patent (DX 11b), Litwin (U.S. Patent No. 3,214,808, DX 10d), Fein (U.S. Patent No. 3,009,220, DX 10e) and the '146 patent. The teachings of Bourne (U.S. Patent No. 3,486,201, DX 10g) were considered only for purposes of showing the state of contemporaneous developments in the art.

II. *SUPPLEMENTAL CONCLUSIONS OF LAW*

1) This Court has jurisdiction of the subject matter and of the parties herein; and venue is proper in this Court. 28 U.S.C. §§ 1339 and 1400; 35 U.S.C. § 281.

2) Claims 1-4, 7, 10, 12, 14-22 and 24-27 of plaintiff's U.S. Patent No. 3,537,146 are invalid and void because the subject matter thereof would have been obvious at the time of the invention to one of ordinary skill in the art. 35 U.S.C. § 103.

3) Claims 1, 10 and 12 of plaintiff's U.S. Patent No. 3,660,869 are invalid and void because the subject matter thereof would have been obvious at the time of the invention to one of ordinary skill in the art. 35 U.S.C. § 103.

4) Claims 1, 2, 5, 6, 11, 17, and 21 of plaintiff's U.S. Patent No. 3,965,538 are invalid and void because the subject matter thereof would have been obvious at the time of the invention to one of ordinary skill in the art. 35 U.S.C. § 103.

5) Claims 1, 2, 5, 6, 11, 17 and 21 of plaintiff's Patent No. 3,965,538 are invalid and void on the grounds of double patenting. 35 U.S.C. § 101.

6) Since all of plaintiff's asserted claims are invalid, defendant has not infringed any of plaintiff's patents.

7) This is not an exceptional case which would give rise to an award of attorneys' fees, and the court declines to exercise discretion to make such an award. 35 U.S.C. § 285.

III. *JUDGMENT ORDER*

ORDERED that judgment be entered as of the date set forth below (with plaintiff's time for appeal running therefrom) in favor of defendant. Defendant shall recover its costs in this action.

United States District Judge

Date

Approved as to form only:

PANDUIT CORPORATION

BY:

One Of Its Attorneys

Approved as to form and content:

DENNISON MANUFACTURING COMPANY

BY:

One Of Its Attorneys

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
— EASTERN DIVISION

PANDUIT CORPORATION, *Plaintiff,* v. DENNISON MANUFACTURING CO., *Defendant.*	Docket No. 78 C 4973 Chicago, Illinois November 30, 1984 2:25 o'clock p.m.

TRANSCRIPT OF PROCEEDINGS BEFORE
THE HONORABLE JOHN F. GRADY

* * * * *

THE COURT: I was talking in a progressive kind of way as I went along from patent to patent.

Now, I will put that in, but what about the rest of these items? Are they really essential?

MR. RYTHER: Well, your Honor, no. I would have to say no, it is not essential. If it were clear with respect to paragraphs two and three that the prior art you considered with respect to the '869 patent was also considered with respect to the '538, I think that would resolve this.

THE COURT: Well, that is true. I mean, I considered both of those patents in relation to all of the prior art that applied to both of them.

* * * * *